PRINTING EQUIPMENT ENGINEER

MARCH • 1936

TECHNICAL PUBLICATION FOR PRODUCTION AN
ECHANICAL EXECUTIVES IN THE GRAPHIC ARTS INDUSTR

"Let 'er Roll!"

NO PLAY • NO CYLINDER JUMPS • NO CHANGES IN COLOR

FROM THREADING TO TOP SPEED

● When the last plate is locked up and you give 'er the button . . . you can depend on the Goss High Speed Anti-Friction Press to finish the run on time with high quality impressions all the way through. There will be no difficulties due to excessive vibration, cylinder jumps, surging, or ink adjustments. Back lash and web breaks are reduced to a minimum by the patented Goss Automatic Tensions. Hour after hour, at any speed up to 416 cylinder revolutions per minute, this Goss Press performs faultlessly with the same smooth power.

Dynamic balance of all rotation parts . . . spiral and helical gears . . . 114 anti-friction bearings on each unit . . . automatic pressure feed lubrication . . . all these outstanding Goss engineering features assure better runs, better showing, and better papers.

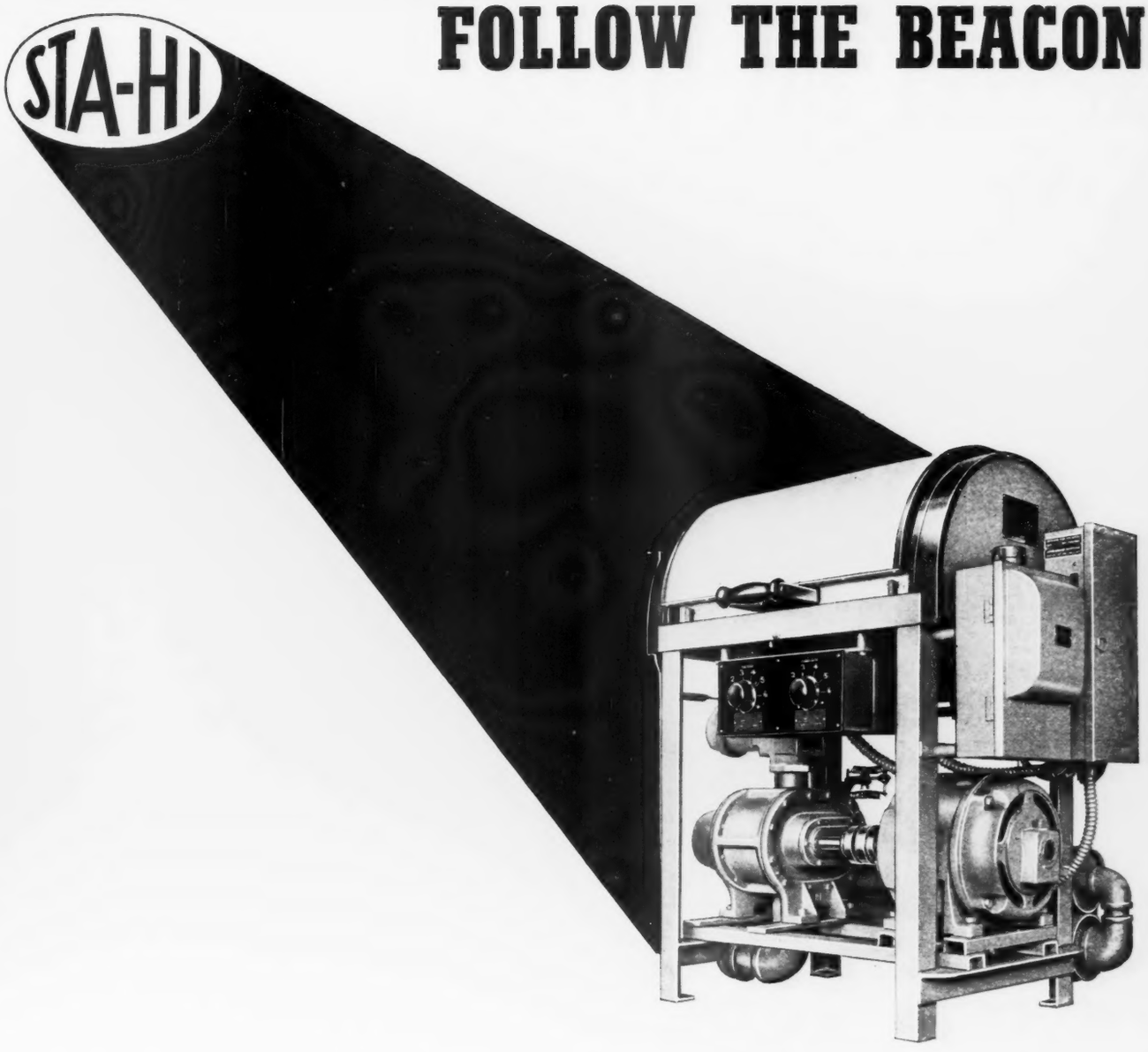
Investigate the economical, time-saving advantages of the Goss High Speed Anti-Friction Press. Let Goss engineers explain its many exclusive features. Examine actual production records. Write for complete information at once.

GOSS

THE GOSS PRINTING PRESS COMPANY, PILSEN STATION, CHICAGO

NEW YORK: 220 EAST FORTY-SECOND ST.
SAN FRANCISCO: 707 CALL BUILDING
THE GOSS PRINTING PRESS COMPANY
OF ENGLAND, LTD., LONDON, ENGLAND

FOLLOW THE BEACON



To the foundation of **Quality Printing—The Stahi Autoformer.** There's danger in sub-normal printing levels. Danger in loss of advertising, loss of time, delay on editions. **Excessive impression** on printing cylinders. Nothing is more dangerous . . . than **poor quality printing** . . . mostly because of distorted casting levels on dry-mats, which **The Autoformer eliminates.**

STAHI NEWSPAPER SUPPLY COMPANY, INC.

1020 CROCKER STREET
LOS ANGELES, CALIF.

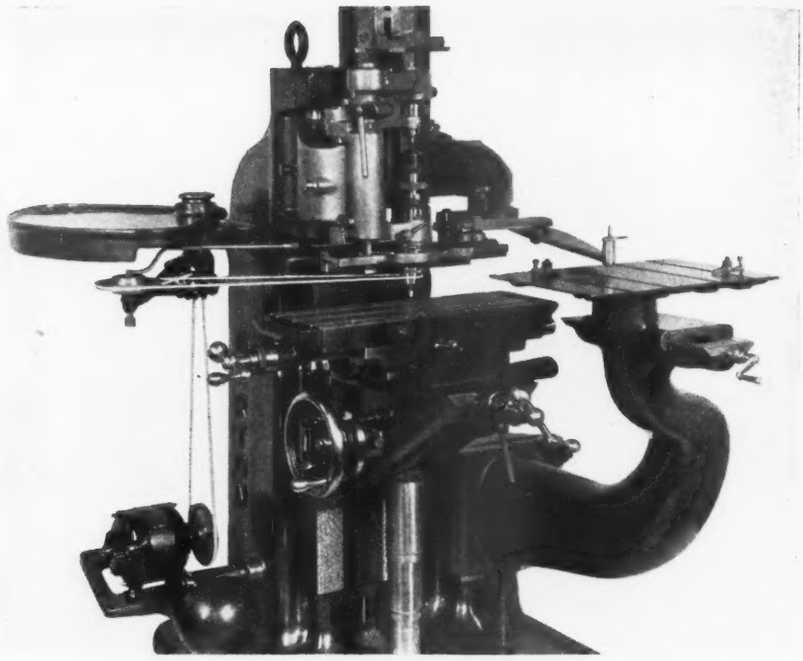
417 OREGONIAN BLDG.
PORTLAND, OREGON

AGENCIES:

GOSS PRINTING PRESS COMPANY, Chicago, New York, San Francisco
CERTIFIED DRY MAT CORPORATION, 342 Madison Avenue, New York
DUPLEX PRINTING PRESS COMPANY, Battle Creek, Michigan
WOOD FLONG CORPORATION, Hoosick Falls, New York
BURGESS CELLULOSE COMPANY, Freeport, Illinois
R. HOE & COMPANY, New York, Boston, Chicago, San Francisco

Foreign Agencies:

GOSS PRINTING PRESS COMPANY of London, England
A. M. CARNEIRO & COMPANY of London, England
TORONTO TYPE FOUNDRY COMPANY, Ltd., Toronto, Montreal, Winnipeg, Canada



SKF-EQUIPPED
BUILT BY
GEORGE GORTON
MACHINE CO.

SKF PUTS EFFICIENCY

into Gorton's No. 3-K precision matrix machine

PRECISION . . . that was what Gorton demanded of the bearings for this No. 3-K Precision Matrix Machine. For grinding tolerances are held within .00025″ for production work on steel stamps, letters and designs, sunk or in relief, on either flat or curved surfaces.

Gorton wanted, of course, an accurate, high-speed bearing for the spindle and slides that would give smooth operation, freedom from wear and no bearing trouble. If it's a job requiring accuracy and high speed, you'll generally find that it's SKF-equipped.

SKF INDUSTRIES, INC., FRONT ST. & ERIE AVE., PHILA., PA.

3568

SKF

BALL & ROLLER BEARINGS

Scott Presses Excel In Performance

Scott Presses are designed and built to turn out more newspapers than any other press, to print them better and to fold them more neatly. To make this possible, Scott Presses must excel in all of these essentials.

Convenience of Operation	**Safety and Reliability**
Rigidity of Construction	**High Quality of Materials**
Perfection of Impression	**Uniformity of Inking**

The only Truly Automatic Web Tension Control
Perfection and Safety of Folder Performance
Actual Every Day Practical Speed

The new Scott "Extra-High-Speed" 60,000 per hour Presses are the last word in modern press construction. They possess every worthwhile improvement, the latest engineering details and do the best newspaper printing with the highest net production.

Scott Press performance has always exceeded our guarantee and Scott construction has assured long life at minimum cost. A Scott Press Installation insures many years of unexcelled service from

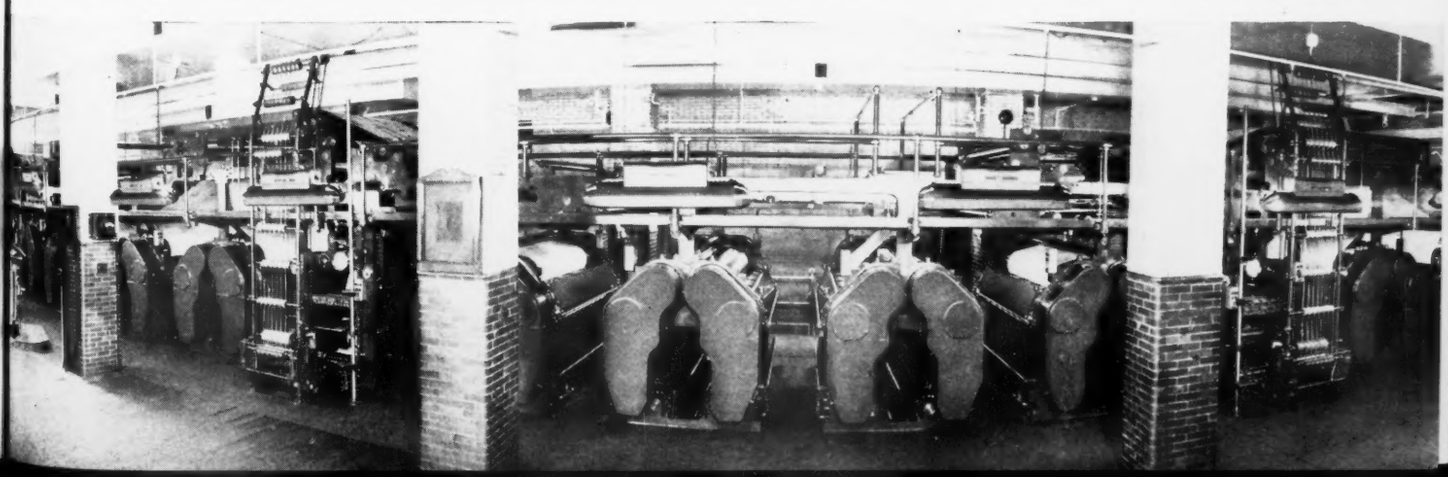
The fastest Presses in the world—Bar None

WALTER SCOTT & Co.

New York
230 West 41st Street

Main Office and Factory
Plainfield, New Jersey, U. S. A.

Chicago
1330 Monadnock Block



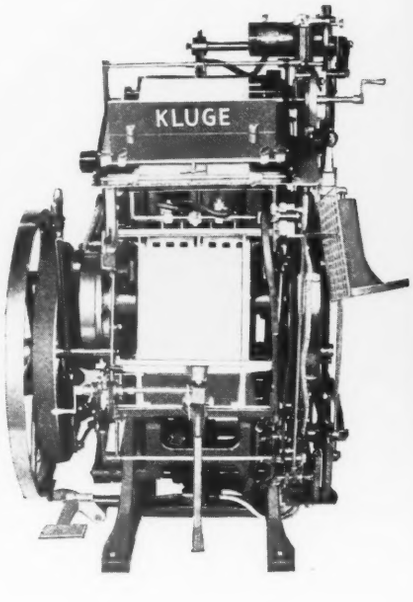
The Kluge Automatic —the most versatile and profitable Press built

BALANCE

The Kluge was designed by pioneer builders of automatic printing machinery to produce printed impressions more profitably and as good as any other press built.

Good printing demands ample distribution. The Kluge has four form rollers, two distributing rollers, two adjustable vibrators and a rider—more distribution than any job press, regardless of its size, plus its patented Select-tone distribution. It has more than ample impressional strength; in fact it is the heaviest press for its size built today, even considering the use of aluminum alloys to permit the reduction of reciprocating weights and increasing speeds, plus the Kluge patented unyielding throw-off.

The Kluge has no outstanding features, but is a perfectly balanced printing press from head to foot, plus the famous Kluge Feeder, acknowledged throughout the world as the most simple and versatile feeder. Facts prove that no printing office, no matter how large or how equipped, is producing printed impressions as economically as they can be produced, unless this shop has some Kluges.



If the shop is small, the Kluge is ideally adapted to it because it will take the "run o' the hook," from two by three inches to the full size limit of the platen, from onion skin to book covers, die-cutting, creasing and embossing, die-cut envelopes, and made-up envelopes two-up if size permits. Built, sold and serviced by Brandtjen & Kluge, Inc., with branches located as listed below.

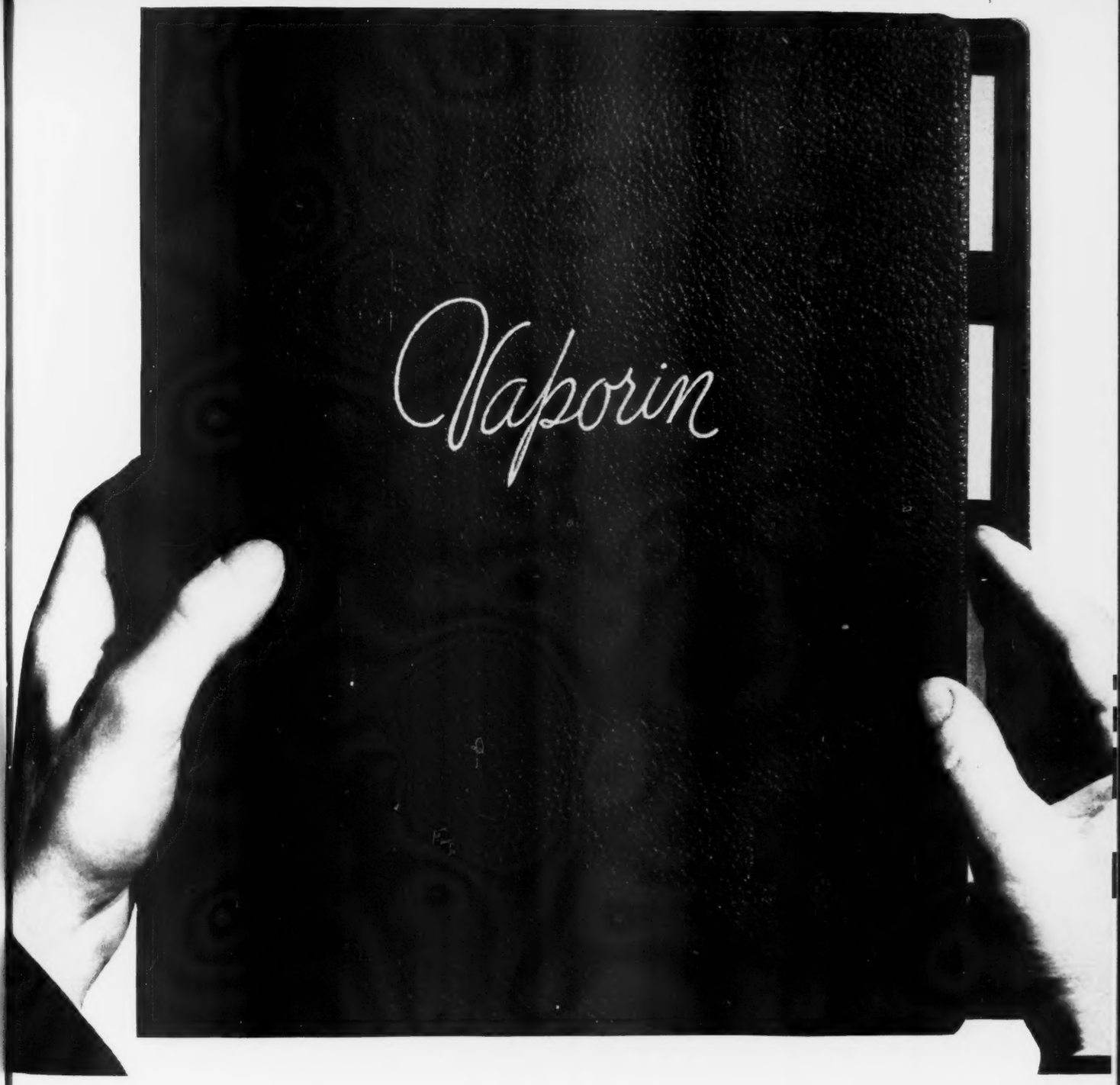
Brandtjen & Kluge, Inc., Mfrs., St. Paul, Minn.

BRANCHES WITH OPERATING EXHIBITS

NEW YORK . . . . . 77 White Street
PHILADELPHIA . 253 N. 12th Street
BOSTON . . . . . 27 Doane Street

DETROIT . . . . . 1051 First Street
CHICAGO . . 106 W. Harrison Street
ST. LOUIS . . . . . 2226 Olive Street
DALLAS . . . . . 217 Browder Street

ATLANTA . . 150 Forsyth Street, S. W.
SAN FRANCISCO, 451 Sansome Street
LOS ANGELES . . 1232 S. Maple Ave.



Ask to see this book of Vaporin IN ALL KINDS OF PRINTING

Vaporin is a process and product for better printing—adaptable to all kinds of printing. A representative will be glad to show you a complete collection of exhibits taken from production runs.

It includes examples of Vaporin used in various types of letterpress work, with two or more colors, wet or dry printing.

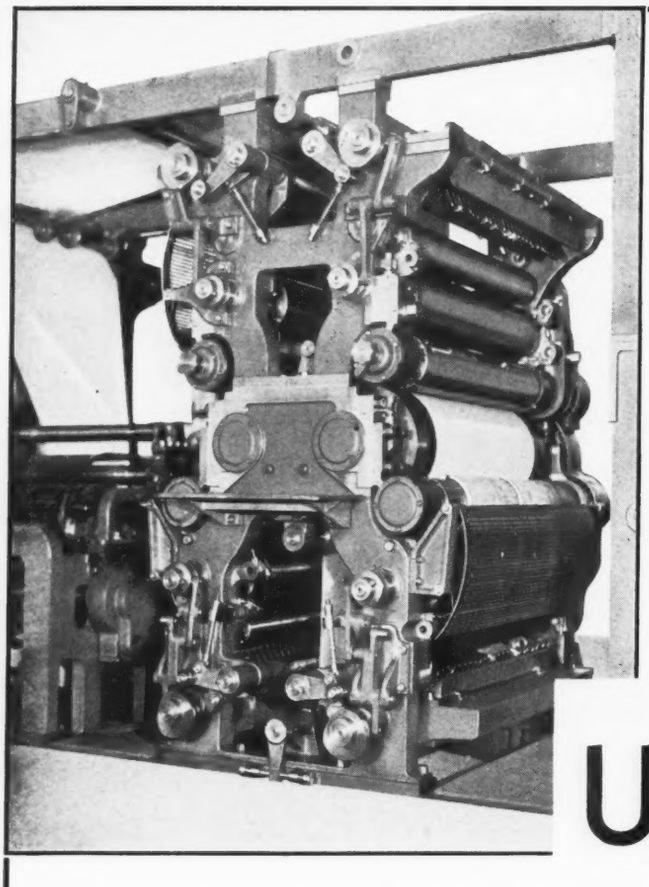
Vaporin is our name for a process, and our trade-mark for the material used by the process. The solvents, unlike those in ordinary inks, pass off rapidly by vaporization upon the application of heat, leaving the solids trapped and dry on top of the sheet. Because of the unusual trapping characteristics of Vaporin it is particularly adaptable to the four-color process.

EXHIBITS IN THE VAPORIN BOOK:

Publication printing — Catalogs — Folding Paper Boxes — Paper Bags — Labels — Soap wrappers — as well as several samples of standard Vaporin Blacks printed on various papers. Telephone or write your IPI representative and ask him to show you this book.

THE INTERNATIONAL PRINTING INK CORPORATION, NEW YORK, NEW YORK

ATLANTA BALTIMORE BATTLE CREEK BOSTON BUFFALO CHICAGO CINCINNATI CLEVELAND DALLAS DENVER DETROIT KALAMAZOO KANSAS CITY LOS ANGELES MILWAUKEE MINNEAPOLIS NEW ORLEANS NEW YORK CITY PHILADELPHIA RICHMOND ROCHESTER ST. LOUIS SAN FRANCISCO



THE NEWEST IN PRESSES

The fully equipped black "UNITUBULAR" printing unit, complete with double color cylinders.

DUPLEX

PRESENTS

THE

UNITUBULAR

FOR HIGH SPEED NEWSPAPER AND SPECIALTY BLACK AND COLOR PRINTING

Since the first DUPLEX "UNITUBULAR" press was installed in November, 1934, repeat orders have completely justified our expectations.

DUPLEX is the largest manufacturer of printing press machinery devoted exclusively to the manufacture of newspaper web-perfecting presses in the world, therefore our most careful attention is accorded every job throughout, and on this basis we invite your investigation.

Other new developments in newspaper presses are soon to be offered publishers. If you are interested in press equipment you will not be satisfied until you see DUPLEX.

Also manufacturers of DUPLEX HEAVY DUTY UNITYPE METROPOLITAN PRESSES, the well known TUBULAR and high speed DUPLEX FLATBED presses.

OUR SALES IN 1935 MORE THAN DOUBLE 1934

"OUR CUSTOMERS WRITE OUR ADS"

WRITE TO

DUPLEX PRINTING PRESS CO.

BATTLE CREEK, MICH.

WATCH DUPLEX IN 1936

Kill OFFSETTING with a GUN!

LOW COST... never before has equipment as effective as this been offered at such an attractive, low price.

●

MAKES NO MESS...leaves no objectionable deposit on sheet, machinery or floor . . . no wax, paraffin or gummy fluid used!

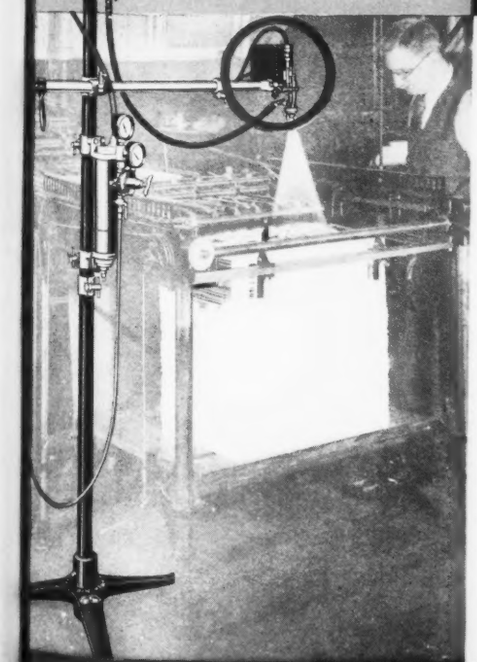
●

MOVES FROM PRESS TO PRESS... easily portable, adjustable to all makes and sizes of letterpress and offset equipment. Can be moved from press to press, and set up for operation in ten minutes!

●

Sold under
ATF's Money-back Guarantee

The ATF Non-Offset Gun is made exclusively for the American Type Founders by the Binks Mfg. Co., Chicago, Illinois. Patent Pending.



ATF NON-OFFSET GUN set up for No. 2 Kelly. Telescopic stand and arm enables you to raise and lower gun, swing and tilt it in any direction so as to fit any other press.

New ATF NON-OFFSET GUN

The method itself has been used in 800 printing plants—the ATF Gun is the new application. Banishes offsetting, sticking and smudging—without slip-sheeting, slowing up the press, racking, running thin! NOW it is ready for YOU in a NEW, portable form at a price you can afford.

Briefly, this is how the ATF NON-OFFSET GUN works: Automatically, as a sheet is delivered, the GUN discharges a quick puff of clean ATF Non-Offset Mix. This forms a protective cushion of dry powder on the freshly printed surface. Prevents abrasion or adhesion between the top sheet and the next sheet delivered. *Slipsheets shot from guns!* The deposit of powder is invisible to the naked eye as it lays on the delivered sheet. It positively will not affect any amount or color of overprinting.

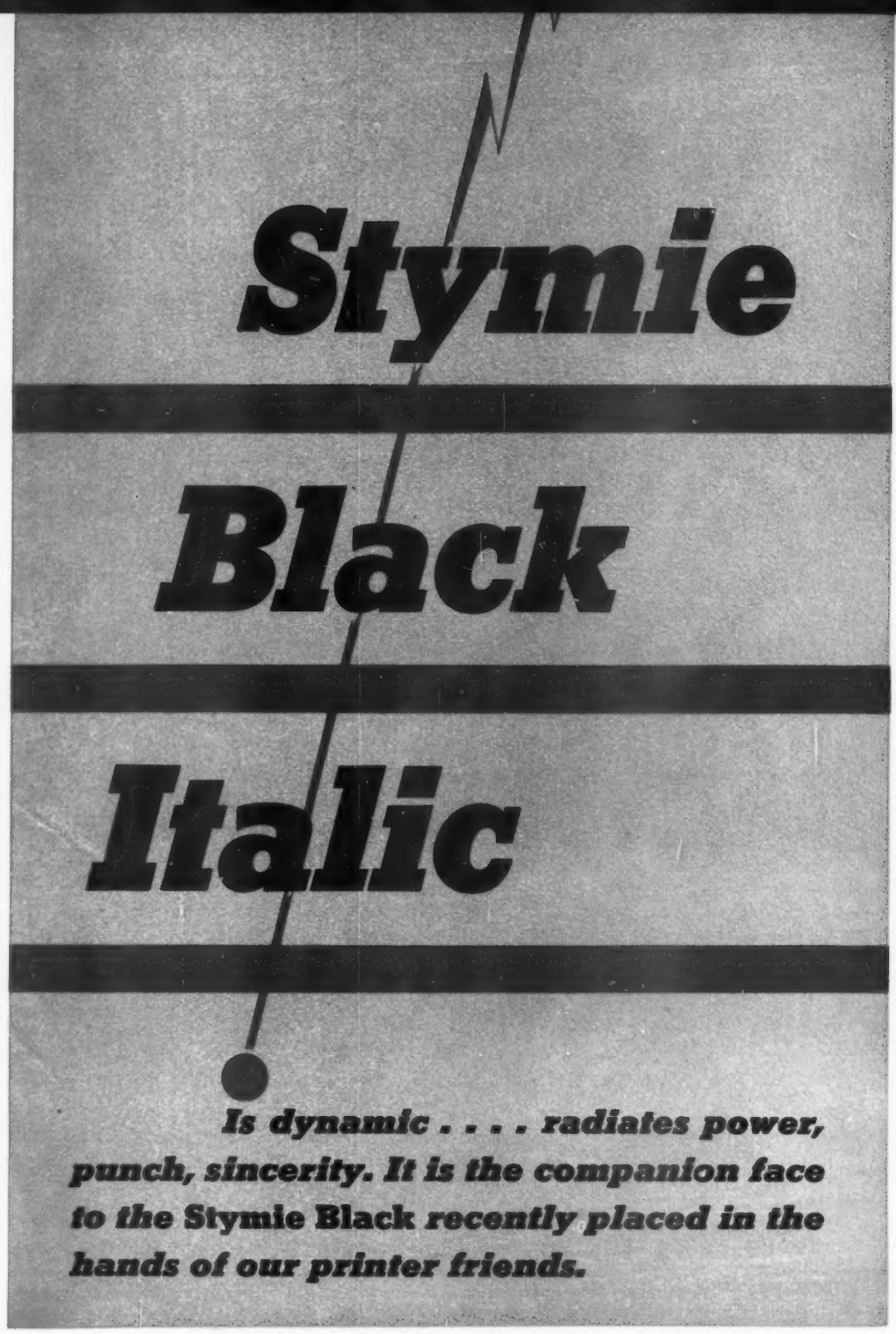
With the ATF NON-OFFSET GUN you can run heavy forms, overprint solids and metallic inks with complete freedom from the usual difficulties. Run full color, waste no time or money with old-fashioned precautions! Expensive, complicated, messy installations are out of date! Here is the improved, modern method. It's compact, portable, clean, low-priced. Simple to install and operate. Proved economical and effective!

See the ATF NON-OFFSET GUN soon! Ask your ATF salesman or call your ATF Branch for full details, mechanical specifications and PRICE!

AMERICAN TYPE FOUNDERS

BRANCHES AND SELLING AGENTS IN TWENTY-FIVE CITIES

This insert printed on Kelly Presses at 2300 per hour—No Offset, of course, thanks to the New ATF Portable Non-Offset Gu


Stymie
Black
Italic
Is dynamic . . . . radiates power, punch, sincerity. It is the companion face to the Stymie Black recently placed in the hands of our printer friends.

American Type Founders

200 Elmora Avenue, Elizabeth, N. J.

Associate Member
National Printing Equipment
Association, Inc.

MARCH 1936
Volume 51 Number 6

Printing EQUIPMENT Engineer

Trade-Mark Registered U. S. Pat. Office

Published by Don Will
Edited by Mac Sinclair

A Technical Publication for Mechanical Executives Responsible for Printing Production, Equipment and Supplies in the Commercial, Magazine, Private Plant and Daily Newspaper Fields.

Established 1910

CCA
Member Controlled Circulation Audit

Share Your Knowledge With Others

The key men in your organization will appreciate looking over the pages of this magazine. Perhaps one of them will be able to put some particular technical idea to good use in your plant.

Place a check mark in each square for attention of the department head or assistant whom you wish to look over special articles in this issue.

☐ ..... *Production Manager*
☐ ..... *Mechanical Superintendent*
☐ ..... *Composing Room Superintendent*
☐ ..... *Chief Composing Room Machinist*
☐ ..... *Monotype Department*
☐ ..... *Photo Engraving Department*
☐ ..... *Foreman Lithographing Department*
☐ ..... *Superintendent Stereotype Foundry*
☐ ..... *Superintendent Electrotype Department*
☐ ..... *Superintendent Press Room*
☐ ..... *Bindery Foreman*
☐ ..... *Manager*
☐ ..... *Purchasing Agent*

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PUBLISHED MONTHLY AT 1276 WEST THIRD STREET, CLEVELAND, OHIO

EASTERN REPRESENTATIVE: RUSSELL BIRCHFIELD, 509 FIFTH AVE., NEW YORK, N. Y. PHONE: VANDERBILT 3-5191.

WESTERN REPRESENTATIVE: H. D. AYLSWORTH, 121 NORTH CLARK ST., CHICAGO, ILL. PHONE: STATE 3800.

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SUBSTANTIAL SAVINGS

without new equipment

Why do operators so often read *slugs* —particularly correction lines—instead of reading the lines of matrices in the assembler *before the slugs are cast?*

The reason is that ordinary matrix reference marks are hard to read—not only because they are indistinct but also because of the glare on the brass.

Glare is hard on the eyes. It causes eye-fatigue, which reduces the operator's efficiency and thus curtails production. Glare also hides errors, and errors cost money. Hence the elimination of glare saves money—in addition to conserving eyesight and speeding up the work all along the line.

Black and White *Matrix Contrast Service* eliminates glare and makes lines of matrices readable at a glance. As a result, the operator notices and corrects his errors *before the lines are cast*. Matrix Contrast reduces eye-fatigue, conserves energy, and makes for larger output.

Do you need more production? You can get it—without buying more equipment—by adopting Black and White *Matrix Contrast*. Actual figures on Black and White advantages are available on request. They are not theoretical figures, but are definite results of scores of surveys made by highly-trained analysts who are thoroughly familiar with composing room routine. Black and White *Matrix Contrast* is guaranteed to reduce total errors in original machine composition by at least 25 per cent.

A trial of Black and White Service can be arranged. You have much to win and nothing to lose. Investigate!

MATRIX CONTRAST CORPORATION
EMPIRE STATE BUILDING · NEW YORK

Sole Licensees of the Percy L. Hill Matrix Contrast Patents Nos. 1,466,437 and 1,796,023

● Matrix Contrast increases by more than 4 per cent your operators' time available for original machine composition. There are one-third fewer correction lines to be handled by floor men. Forty per cent more takes can be placed in page forms without waiting for corrections. Not to mention 50 per cent fewer errors (of the kinds apparent to the average reader) in railroaded news matter.

Color Statistics

According to W. J. Byrnes, Chicago Tribune *promotion manager, who spoke at the recent Color Conference, figures on newspaper color advertising are incomplete, but reports from 51 newspapers covering the past two years showed an increase in color lineage from 4,332,707 in 1934 to 5,612,000 in 1935, or a gain of 29.5%.*

Figures supplied on run-of-paper color advertising by 40 newspapers show an increase of 592,188 lines from 1934 to 1935. The total for 1934 was 2,330,589 lines and for 1935 it was 2,922,777 lines.

Mr. Byrnes presented a summary of the newspapers offering color service. From a listing of 1,776 daily newspapers in Standard Rate & Data Service, *524 offer color of some kind to advertisers.*

Coloroto is offered by 141 newspapers, or 7.9%. Comic Section advertising is available from 238, or 13.4%. Magazine color is obtainable from 191, or 10.8%. Run-of-Paper color is supplied by 328, or 18.5%.

Newspaper Color

Newspaper Color Making Progress—Conference Discusses Market and Production Problems

By Staff Writer

MORE than 115 representatives of 50 newspapers, including many mechanical executives, attended a color conference in Chicago, Wednesday and Thursday, February 12-13. The Conference was sponsored by the Chicago *Tribune*, which has done considerable pioneering work in the development of newspaper color printing. Conference meetings were held in the *Tribune's* WGN radio station studio.

The principal speakers on the program were Col. Robert R. McCormick, publisher of the *Tribune* and host to the Conference; David Mayer, vice president and general manager of Maurice L. Rothschild (extensive newsprint color advertisers in Chicago and Minneapolis); W. E. Macfarlane, Chicago *Tribune* business manager; W. J. Byrnes, *Tribune* promotion manager; A. M. Kennedy, *Tribune* Sunday editor; Paul E. Watson, vice president and western manager of Ruthrauff & Ryan, Inc.; John Hansel, vice president of N. W. Ayer & Son, Inc.; Fred Shafer, *Tribune* advertising copy department and John W. Park, *Tribune* production manager.

Publishing and advertising men predicted that the trend in newspaper advertising definitely is toward a more widespread use of color, not only in the rotogravure, magazine and comic sections but also in run-of-paper color in regular daily editions.

An important highlight of the conference, as stressed by advertising agency men in attendance, is that more advertisers are ready to use color advertising in newspapers as soon as they can be assured of good reproduction. A present difficulty is that color printing is not standardized with the result that a national advertiser does not get uniformity in the appearance of his advertisements. National advertisers are interested in color and its use by them is dependent upon further developments in the way of better color reproduction as well as its being made more generally available among the newspapers of the country.

It was brought out that printing press manufacturers and the makers of plate-making machinery, inks and other equipment are cooperating with newspaper business and mechanical executives to improve color printing facilities.

The question arose during the Conference as to whether three-color run-of-paper printing facilities would be sufficient for a number of years to come. The feeling seemed to prevail that with an increasing demand for both color and the best possible reproductions, four-color printing in all probability will be used extensively even in the daily newspaper field.

Aside from the general promotional nature of the discussions, perhaps the most interesting phases of the Conference to the newspaper mechanical executive who is directly interested in the production technique of newspaper color, are the comments of Col. R. R. McCormick, Fred Shafer and John W. Park.

Colonel McCormick emphasized the desirability of new appeals in advertising and publishing and through the opportunity thus afforded newspapers will benefit by general improvement in color advertising production. One of the points of Colonel McCormick's talk, from the standpoint of the mechanical executive, is that he urged a continuance of cooperation in making results of technical studies generally available in the interests of the entire field. This would apply to both business and mechanical departments.

Fred Shafer and J. W. Park discussed color advertising technical problems. Mr. Shafer, advertising copy department head, discussed the preparation of copy for newspaper color ads. He stated that coloroto makes little trouble now but that run-of-paper advertising causes most of the difficulties. Advertisers must be educated to prepare the right kind of copy. Solid colors cannot be printed over each other to advantage. By simplifying color layout, three colors will often give as good an effect as four colors. In order to get the best results the art department, engravers and the pressroom must co-

A.N.P.A.
Conference

As was announced in the February Printing Equipment Engineer, *the 1936 A.N.P.A. Mechanical Conference will be held in Chicago, Monday, Tuesday and Wednesday, May 25, 26 and 27.*

Since publication of the first announcement, Walter E. Wines, Manager of the Mechanical Department, states that the Palmer House has been selected for the Conference. The day sessions will be held in the Red Lacquer Room. This room is much larger than the one used in Detroit as it is anticipated there will be a greater attendance. The Red Lacquer Room is air conditioned.

Departmental evening meetings, instituted at Detroit, will be held in smaller rooms.

The Palmer House Exhibition Hall will be used for the equipment and supplies exhibits. Gas, compressed air and various voltages of a.c. and d.c. current will be available. A freight elevator may be used to bring heavy machinery to the Exhibition Hall.

operate. While magazine printing cannot be duplicated on high-speed newspaper presses using newsprint, beautiful effects can be obtained by giving proper attention to all details.

When run-of-paper color was first used it was confined chiefly to price emphasis and to advertisements in which a big splash of color was used in order to attract attention. As the art of run-of-paper color printing has progressed, the best use of color is seen in the advertisements which show realism in the products advertised.

In discussing the manner in which preparation of run-of-paper color advertisements are handled by the *Tribune* organization, Mr. Shafer said:

> A page never goes through the organization but what we ask the advice and suggestion of every one concerned. When an advertisement is in the layout stage the color foreman of our pressroom usually hears about it and comes up to look it over and to tell us what he thinks of our plan. No sooner do we start on an art job than the engravers are up to see it. Suggestions from all of the mechanical departments have been valuable.
>
> Today any three colors which are wanted by the advertiser can be supplied. Type must be in one of the three colors selected. Type should be in the darkest color, otherwise it would be weak and hard to read. We have found the best results are obtained by using a fairly strong line halftone keyplate in one color, relying on halftones or bendays for tints in any or all of the three colors. Art work should be as simple as possible and all in one unit. Where there is a lot of stripping and extra negatives, costs run high and the plates take greater time. Small illustrations and fine detail, such as lips and eyebrows, should be carried in one color only. No copy should be less than actual size. Enlargement makes imperfections more pronounced.

John W. Park enumerated the mechanical problems related to printing which must be solved before newspaper color printing can be executed successfully. He emphasized the necessity for providing enough time to proof and correct color rotogravure advertising.

The greater part of Mr. Park's talk was devoted to run-of-paper color printing by means of ½-in. plates, with soft packing and newsprint speeds ranging from 32,000 to 37,000 i.p.h. The talk was along the lines of his Graphic Arts Research Bureau address published in the February *Printing* Equipment *Engineer*. The "potato grater" device, by means of which increased amounts of ink can be used in color printing without offsetting, was also described by him in the February issue.

Mr. Park discussed the use of 75-line screen halftones on all color plates to obtain better tone gradation. These cannot be obtained with benday. More color under shadows is permitted by the use of halftones, together with a richer general appearance and better highlight values. He asserted that a new kind of ink without linseed oil base would bring about a great improvement in run-of-paper printing. Before attempting standardization the new kind of ink is essential.

Introduces Four-Point Face

The Mergenthaler Linotype Company has introduced a 4-point face that is proving highly popular. The new face, 4 point Century Expanded with Gothic No. 16 has proved so popular that C. H. Griffith, assistant to the president of the Mergenthaler organization, has ordered the matrix department to manufacture many more fonts of it than were originally specified.

A Brief Sample

One reason why 4 point Century Expanded with **Gothic No. 16,** which is unusually legible, considering its small size, is so popular is that it does away with the expense and loss of time formerly required in setting larger sizes and photographing them down to the smaller size desired, or in setting and distributing 4 point faces by hand.

The new 4-point face is appropriate for catalog work calling for a comparatively large number of words in a relatively small area; for coupons on stock and bond certificates and in advertisements; for small classified advertisements, and for various other forms of printing calling for compact treatment.

The lower-case alphabet length of 4-point Century Expanded with Gothic No. 16 is only seventy-eight points. The matrices will run in the regular 90 channel layout. To cast the face on its own 4-point body, however, it is of course necessary to equip a machine with 4-point right and left-hand liners, and to make some simple changes of the ejector mechanism.

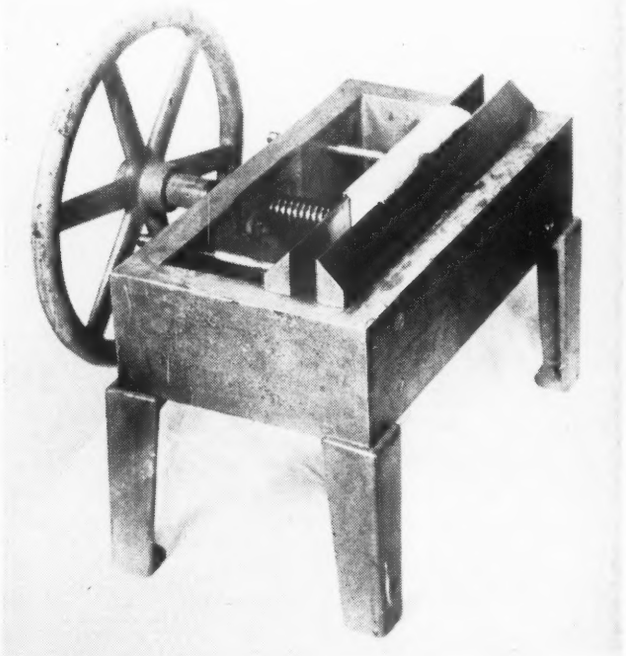

Fig. 1.—View of Book Press for which several uses will be found. It may be used as a combination backing machine and book press, and it may be used as a standing press or a finishing press. The one described here will take a book 8½ in. by 14 in., Cap Size.

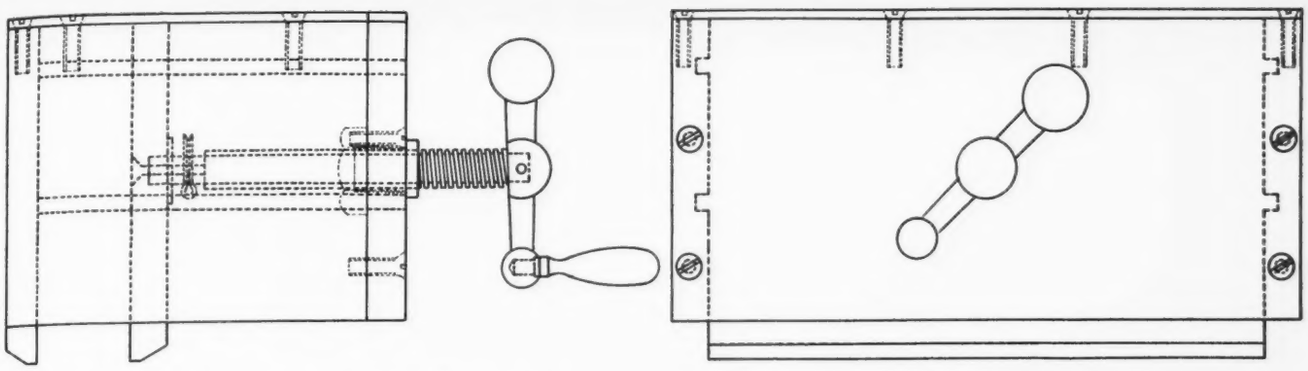

Fig. 2.—Front and side elevations of utility book press. Means for positioning the movable jaw and applying pressure are shown in cross-section.

Book Press

Of High Utility in Large and Small Plant Described

By Ira D. Pilliard

A BOOK PRESS for which several uses may be found in any bindery is shown in Fig. 1. In the accompanying plan view and cross-section diagram are shown various details of construction. In print shops having only an occasional small job of binding to do, where the volume of work does not warrant the purchase of standard equipment the press will be useful. In the larger binderies, where the larger equipment may be tied up with long runs and an additional press or two is needed for a special job, this type of press will meet many needs.

It may be used as a combination *backing machine* and *book press*, since it may be converted readily from its horizontal position as a job backer to a vertical position as a small *standing press* by the simple expedient of standing it on the end opposite the revolving handle. By facing the jaws with felt, it may be pressed into service as a *finishing press*. If the machinist is instructed to finish the inside faces of the jaws with a polished surface, felt will not be required.

The press here shown, overall dimensions 10 in. by 17 in., was planned and custom built to fill the particular needs of a plant doing a quantity of small specialty work. It will take a book 8½ in. by 14 in., Cap Size.

The materials used are strong enough to withstand the stresses to which presses of even larger sizes might be subjected. Therefore, an enlargement of the overall size of the side plates and the lengthening and possibly increasing the diameter of the flat-thread screw are practically the only requirements where presses of larger size are desired.

For many commercial shops, a Demy size (10½ in. by 16 in.) would prove to be more practical. This would necessitate jaw plates 10½ in. deep and an inside width of 17 in. The flat-thread screw diameter should be increased to 1¼ in. and the guide lugs on the movable jaw to ¾ in. depth. For plants doing heavy work the larger screw and heavier guide lugs will give an additional factor of safety even upon the smaller press.

The flat stock used was cold-rolled steel, one inch in thickness. The addition of the bottom plate makes a much stronger job, but it may be omitted and the four tapped holes in the side walls utilized to provide for securing the press to bench or table. A cut-out made in the table top will then admit of the handling of work

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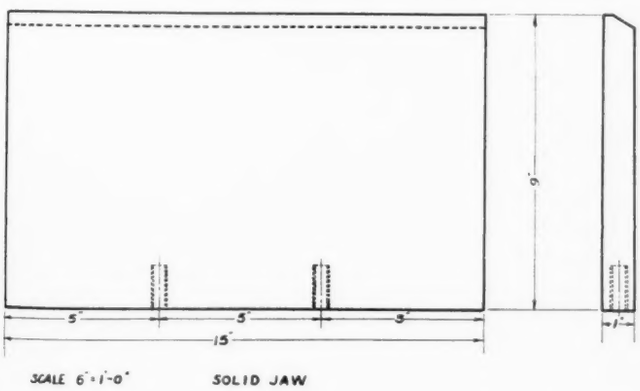


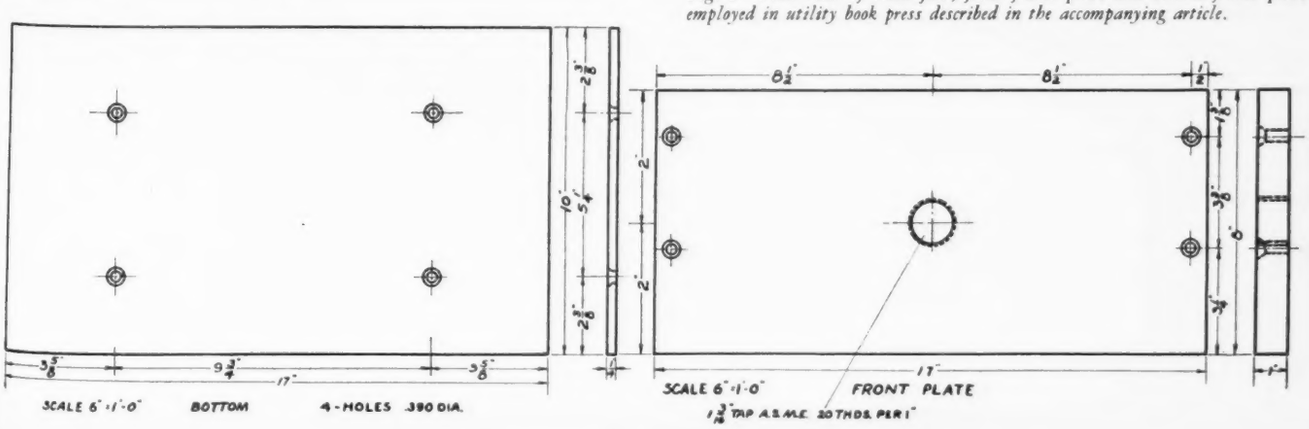


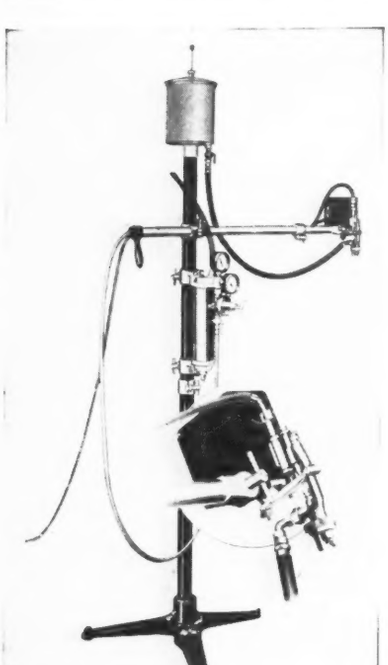
Fig. 3—Plan view of solid jaw, front frame plate and bottom frame plate employed in utility book press described in the accompanying article.

Printing Equipment Notes

New Portable Non-Offset Gun

Offsetting, smudging and sticking are said to be eliminated by a new type of portable "gun" which delivers a microscopic cushion of harmless powder between printed sheets. The new "gun" is a product of the Binks Manufacturing Company, and will be distributed by American Type Founders.

This method of offset elimination makes slipsheeting unnecessary, according to the announcement, even when overprinting solids, varnish or metallic inks. Tests have also shown that the invisible "powder-cushion" causes no change in the printing characteristics, "feel", or



Binks Portable Non-Offset Gun

clean appearance of the sheets so treated. It has been used on as many as five super-imposed colors, each color being treated separately without changing or affecting the colors.

A free-flowing liquid is atomized by the "gun" and dries instantly while in the air, falling upon the sheet in the form of microscopic particles which act as the protective cushion. These particles cannot produce a gummy effect, yet they are of such a character and size that they have no "sandy" or abrasive action, according to the report of experimental tests. The substance is a compound that is harmless to employees or working parts of the press. When a visible accumulation of the particles on the delivery table framework has resulted from continuous operation over long periods, it is said to be easily removed with a damp cloth.

The liquid is fed by gravity to the adjustable spray nozzle, where it is atomized and spread over the sheet by compressed air. An adjustable arm which extends over the delivery pile makes it easy to regulate the discharge to give complete offset protection with the minimum amount of material. In a test in one pressroom, the gun was used on a sheet 46 in. wide delivering 16,000 sheets per day. One gallon of fluid, costing approximately $1.00, lasted 10 days.

The portable "gun" is said to be easily installed on cylinder, vertical or offset presses, as well as on web presses. An automatic control regulated by the press itself times the "gun" to deliver a quick spray of the proper duration just as each sheet arrives on the delivery table.

For plants already equipped with compressed air at a pressure of 40 lbs. or more, the portable spray unit can be connected to the present system. However, air compressors specifically designed to operate one or more of the new offset "guns" have also been introduced for use where required.

A detailed description of the operating principle and mechanical specifications of the new offset "gun" may be obtained from American Type Founders direct or through *Printing* EQUIPMENT *Engineer.*

The Stahi Finaltrim

The Stahi Finaltrim, announced by The Stahi Newspaper Supply Co., Inc., properly trims a dry mat to final length as required for clip-to-clip dimensions in the curved formation at the radius it enters the casting unit, or in other words, the casting unit radius of the casting box. This contour insures that heavily packed mats, as in open

Illustrating the new Stahi Finaltrim with previously scorched mat held in position by spring fingers to insure exact clip-to-clip length of the mat.

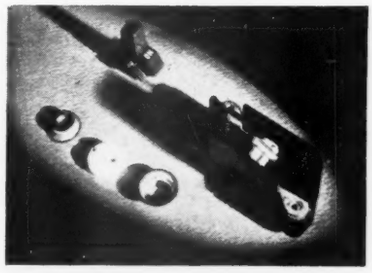
pages, will be trimmed the exact length of the clip-to-clip dimensions in the same manner as solid pages which carry only a small amount of packing, and that owing to the non-flexing of the mat during the trimming

operation, the loosening of packing or cracking of mat fibres is eliminated.

In using the Finaltrim, the operator trims the mat all around on the flat shear, leaving about ½ in. extra length either on the foot or head of the mat, to be trimmed on the Finaltrim after shrinking in the scorcher. The mat is not cooled in this operation, since the curved bed of the Finaltrim is purposely made of thin material in order not to radiate too much heat away from the mat. The spring fingers press the mat against the gages to govern the length, these spring fingers being actuated by the lever shown at the end of the Finaltrim. After one stroke of the trimmer knife, the mat is ready for the casting units. The trimmer blades are made of special steel, carefully hardened and ground. The movable blade and its carrying lever are specially counterweighted to insure self-return of the blade to full open position. Tension between the cutting blades is maintained by a spring, eliminating the necessity for the operator to crowd the blade by hand to obtain proper cutting of mats.

Silent Switch—No Moving Parts

A small, compact electric switch, which is completely silent in operation and which has no moving parts to wear out, was announced as a new development of the General Electric Company's research laboratory. About



Midget Switch utilizes mercury break principle. The works are about the size of a marble.

the size of a marble, the "works" of the new switch utilizes the mercury-break principle to function without a suggestion of a click. In the laboratory at Schenectady, one of the mercury switches has turned a 200-watt incadescent lamp on and off some 65 million times in the last two years without failing or wearing out.

The switch consists of two shallow chrome-steel cups about ¾ in. diam., sealed together with a strip of lead glass to form a hollow compartment. Separating the cups is a disk of ceramic material in which there is a small hole located near the edge. The compartment is evacuated after fabrication and in it about four grams of mercury are inserted. The mercury fills roughly one quarter of the space. After insertion of the mercury, the compartment is filled with hydrogen at about atmospheric pressure and sealed off by welding.

In the "off" position, the hole in the ceramic insulating disk is above the line of the enclosed mercury. However, when rotated 20 deg. the switch assumes a position where the mercury can flow through the hole, thus establishing a contact between the two chrome-steel cups and closing the circuit.

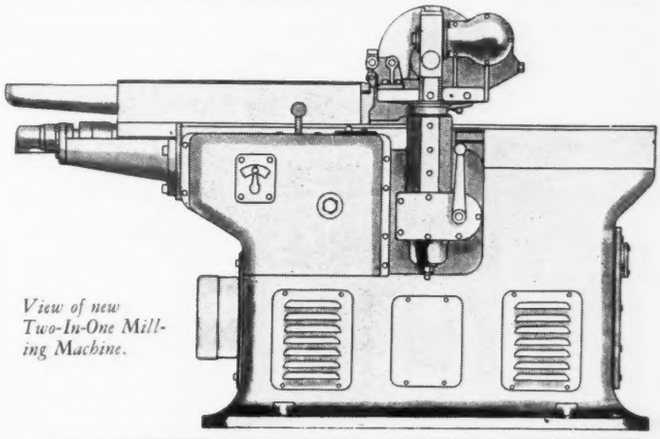
Hydrogen is used in the switch because of its properties as a cooling agent and because in it an arc can be better quenched.

An additional feature of the switch is a tiny plate of steel with two-tenths of a mil of platinum superimposed on its surface. One such plate is welded to the inside of each steel cup, affording better mercury-to-metal contact and keeping the switch from heating. As a final operation in its manufacture, the switch is cadmium-plated to give a good surface for external contact. It is then ready to be fitted into a suitable enclosing case or to be incorporated into any switching operation.

Two-In-One Milling Machine

The Lake Erie Stereotype Equipment Company announces the development of what it is pleased to term a Two-In-One Milling Machine for finishing stereotypes, electrotypes and stereotype metal bases, since it combines the functions of both roughing and shaving machines.

The machine is fitted with a special rotary milling cutter. The cutter, it is said, will give service for about



View of new Two-In-One Milling Machine.

one year before needing to be reground. The machine is constructed with latest design fixed bed. A direct-reading micrometer height adjustment for the cutter enables the operator to obtain the desired plate thickness rapidly. The hydraulic feed for table movement is infinitely variable from 5 in. to 75 in. per min., to accommodate the varying depths of cut. The table returns to normal position at a rapid rate.

Special pressure rollers chuck the plates firmly to the bed to prevent buckling or stretching of the plates. A screw conveyor carries chips into a container beside the machine. The milling cutter is driven by a 5 h.p. motor and a 1 h.p. direct motor drive operates the hydraulic pump.

Maximum plate size handled is 18½ in. by 25 in. Plate thicknesses obtainable range from 0.063 in. to type high. The cutting range is from 0.0005 in. to 0.090 in. Accuracy tolerance is claimed to be within 0.001 in.

Overall dimensions of the Two-In-One Milling Machine are 44 in. high, 51 in. wide and 70 in. long. Approximate net weight is 3500 lbs.

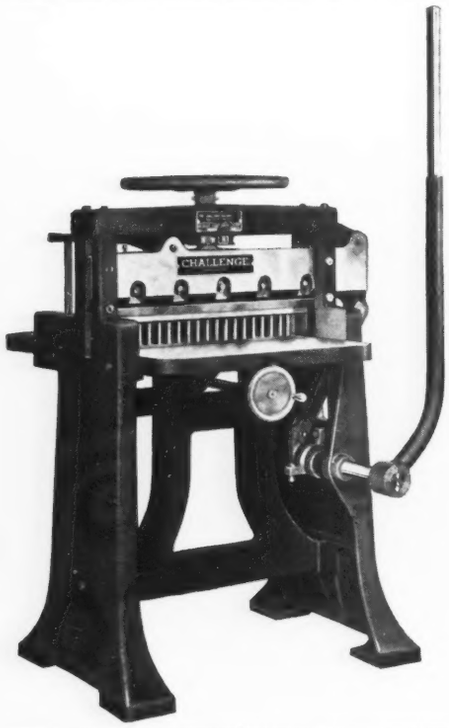
New Paper Cutter

Easy operation, great strength and modern design, it is said, are introduced in the new Challenge 265 Lever Paper Cutter, recently announced by The Challenge Machinery Company. Entirely new in design and made throughout from new patterns, the Challenge 265 provides easy cutting of heavy lifts without loss of accuracy or time. It has a quick acting back gage which is easily squared. Both the knife bar and lever are perfectly balanced. The lever returns to an upright position after the cut is made. The handle of the lever is chromium plated and all parts, including the lever, up to the knife bar are made of steel.

Super strength, it is claimed, is evidenced by the strong center brace, running from one side frame to the

other and supporting the table; by the solid side frames, and by the wide, anchored arch.

The Challenge 265 has a new type, 6-spoke hand-clamp wheel of special "dished" design which permits the operator to get a convenient finger hold at any and every position at which the clamp wheel stops when running it up or down.



View of New Challenge Lever Paper Cutter. Several new mechanical features are incorporated in its design.

Other features of this new cutter include the Duplex Steel Measuring Tape; wide feet on clamp to minimize marking of stock; polished, extra-wide knife bar; Air Line (surveying instrument style) Indicator on front of tape scale for setting back gage.

Further details and prices are available on request to the manufacturer, The Challenge Machinery Co., direct or in care of *Printing* EQUIPMENT *Engineer*.

New Model Machine Lamp

Catering to the increasing trend for localized lighting, a small machine lamp is now in production at The Fostoria Pressed Steel Corporation. The new No. 16 Fostoria Machine Lamp is suitable for use on any machine where a small size localized lighting unit is desirable.

View of new model Fostoria localized lighting lamp.

Ball and socket joints provide flexibility with sufficient rigidity to withstand machine shock and vibration. The specially designed reflector accommodates either 15 or 25 watt bulbs.

Its base may be bolted directly to equipment, or to a special clamp that eliminates the necessity of drilling equipment for attachment.

Litho-Print for Offset

It has been announced by Sam'l Bingham's Son Mfg. Co., of Chicago, that as a result of the work of scientists and technical men over a long period of time, a new printing roller suitable for use in fine offset work is now ready for distribution.

Much secrecy surrounds the formula for the compound which composes Litho-Print. It is not leather, rubber or vulcanized oil. It is a chemically compounded material, it is said, which possesses all those qualities necessary to rollers for fine offset work. It is produced only in the plants of the Bingham Company who have pioneered many developments in the art of roller making.

Some of the advancements developed by the Bingham Company have been the Gatling Gun roller-casting machine, named because of the rapidity with which it can be loaded and discharged, these machines being equipped with steel moulds bored from solid forgings to insure straight and true rollers, the adaptation of the vacuum pan system for making roller composition, insuring the absence of unnecessary water and air bubbles from the composition; apparatus for applying a new surface of roller composition on permanent roller bases, which system can be and is being used in certain types of printing plants; and the development of a rubber roller for newspaper work which possesses the qualities of a printing roller and the durability of rubber.

(*Continued on Page 40*)

Linotype Announces New Display Face Sizes

Among the many recent typographic developments announced by the Mergenthaler Linotype Company are the 36 point sizes of two popular newspaper headletter faces—Bodoni Bold Condensed, and Caslon Bold Condensed, as well as 36 point Caslon.

The latter face will run in a wide 72-channel magazine, as also will the 36 point Caslon Bold Condensed. The lower-case of the latter also may be run, if desired, in the cap channels of a 72-channel magazine, and the caps in a wide auxiliary. The 36 point Caslon Bold Condensed will run in a 72-channel magazine.

36 Point Bodoni Bold Condensed

Four Houses

36 Point Caslon Bold Condensed

Local Girl

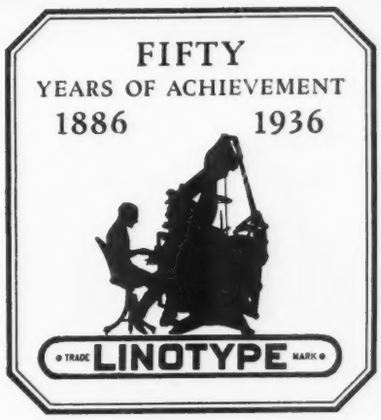
36 Point Caslon

How One

Other recent Linotype developments are 9 point Memphis Medium with Italic, 9 point Memphis Bold with Italic, 10 point Erbar Light Condensed with Erbar Bold Condensed, and 42 point Gothic No. 13 Advertising Figures, which may be cast on a 36 point slug.

Adams with Ullman

Arthur F. Adams, formerly Production Manager and Western Sales Manager of the Fred'k H. Levey Co., has joined the Sigmund Ullman Company, Division of General Printing Ink Corporation, as Special Representative.



Modernize for Profits

The way to profits in 1936 is just this:
Give your customer better printing with economical production.
And the way to do it is by modernizing equipment.
Through its intensive development of the last few years, Linotype is able to offer you improved machines . . . greater typographic facilities . . . many new aids to efficient composing-room operation.
Are you giving yourself and your customers the benefit of these improvements? Is your plant operating according to 1936 Linotype standards and to 1936 craftsmanship standards?
If it is, you can be assured that nobody can offer better typography or a more economical method of producing it.

Recent Linotype Developments Include:

TWO-IN-ONE LINOTYPE
ALL-PURPOSE LINOTYPE
SUPER-DISPLAY LINOTYPE
4-MAGAZINE MODEL 8
SELF-QUADDER
LINOLITE MAGAZINE
THREE-QUARTER LENGTH MAGAZINE

MERGENTHALER LINOTYPE COMPANY, BROOKLYN, N. Y.

SAN FRANCISCO · CHICAGO · NEW ORLEANS
CANADIAN LINOTYPE, LIMITED, TORONTO, CANADA
Representatives in the Principal Cities of the World

LINOTYPE BASKERVILLE AND ATHOL CLOISTER BOLD

Book Press

(*Continued from Page 13*)

of greater depth. The frame plates are held securely by ½ in. flat-head machine screws, two at each corner. The substitution of a taper pin, filed even with the flat-screw shaft, is recommended in place of the cotter pin shown in the drawings; or a machine screw may be employed if counter sinking is done to allow for the screw head. A hand wheel may be substituted, if preferred, for the handle shown.

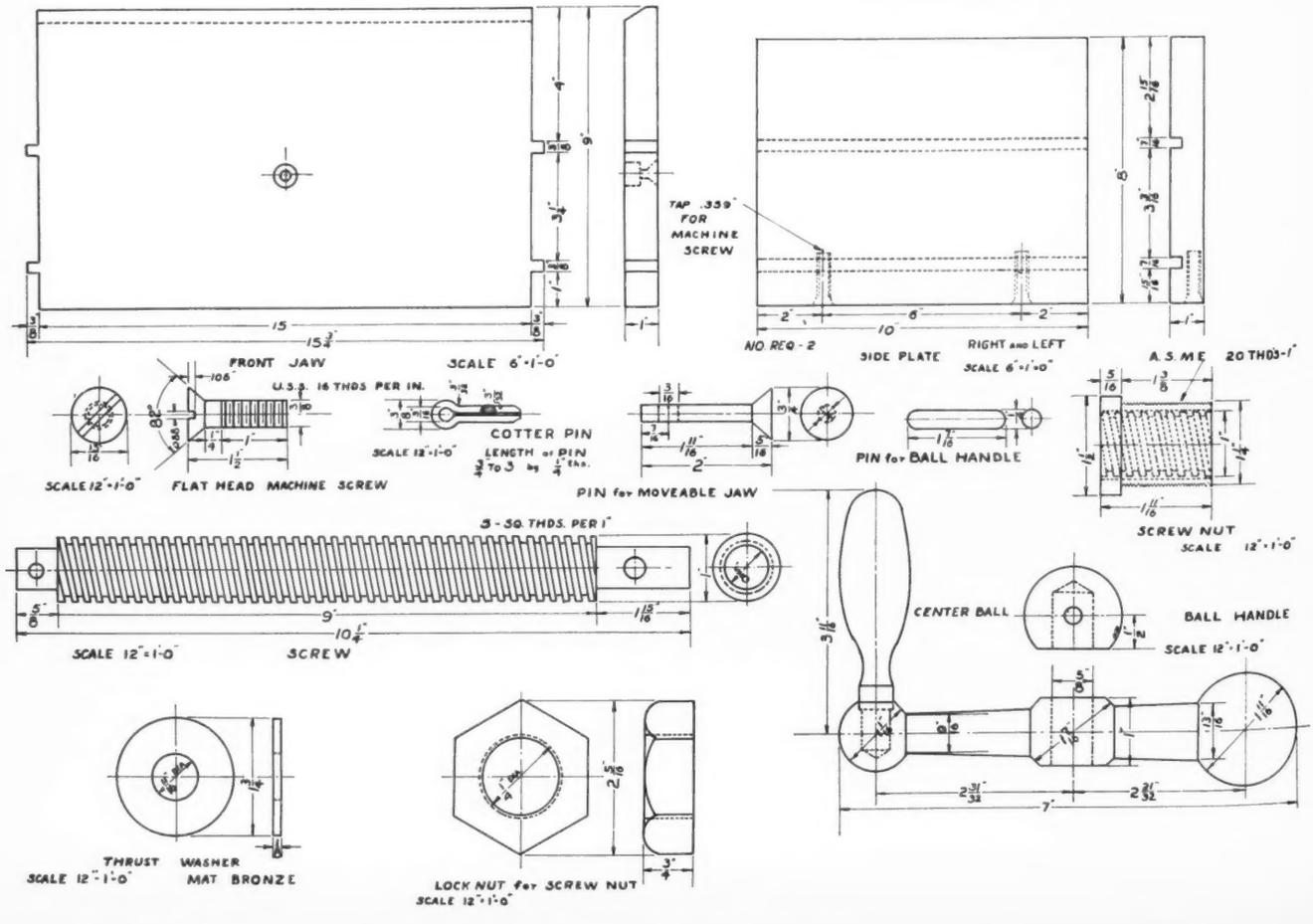
Small presses of this type will save many steps over the ordinary procedure in a bindery. To illustrate: If a bookbinder were assigned to glue-up fifty or more books, with this small press on his bench he could proceed as follows:

1. Glue-up five books with flexible glue and place these in the small press for gang pressing while the next five are being prepared.
2. Remove the first lot of five and place them under a heavy weight upon the bench.
3. Place the second lot of five in the small press to set while the third lot is being glued-up, etc.
4. When the fifty books have been treated, the entire lot would then be removed to the bigger presses to permit of seasoning overnight. Thus, many footsteps and the repeated opening of the bigger presses could be saved.

The book press shown in the halftone was designed by Ansel C. Hook, Printing Instructor, West Allis, Wis. At present, it is not being manufactured for the market.

Editor's Note—Blueprints for making the press may be obtained by sending 75c in stamps to *Printing* EQUIPMENT *Engineer*.

Fig. 4—Detail drawings of front or movable jaw, right and left side frame plates and compression screw details employed in book press described in this article.



ATF Notes

Dramatic methods applied to the selling of capital goods was the subject of an address by Harry W. Alexander, General Sales Manager, American Type Founders Company, Elizabeth, N. J., before a record crowd luncheon meeting of the Sales Executives Club of New York, February 10th, at the Hotel Roosevelt.

Nine members of the American Type Founders Chicago Branch Office flew from Newark, N. J. airport to Chicago February 18th, after attending Eastern Regional Sales Conference in Washington, D. C., and visiting the home office and plant in Elizabeth, New Jersey. ATF employs 500 in its sales department. Making the westward trip were: C. F. Hicks, manager of Chicago Branch of ATF; J. Salek, W. Plattner, C. M. Foss, C. Dietrich, R. C. Wilson, J. B. Olney, C. F. Miller and J. A. Johnson.

For the three final months of the year 1935, American Type Founders operated its plant at Elizabeth, New Jersey, with a perfect record of no time lost due to accidents. In recognition of this achievement, ATF has been awarded a certificate of merit by the New Jersey Department of Labor. 2200 plants were in this contest.

Walter S. Marder has been appointed Manager Boston Branch of the American Type Founders, succeeding John F. Fallon, retired after nearly 40 years of service in the Company.

Chicago Representative

M. B. Cary, Jr., of the Continental Typefounders Association, has announced the appointment of The Economy Printers Products Co., 123 Harrison St., Chicago, as representative for Continental Typefounders Association in the Chicago territory.

Foreman

Of Composing Room Should Cultivate Certain Qualities

By John Clyde Oswald

A COMPOSING room foreman should be not only a typesetter, but a typesetter *par excellence*. There are capable foremen who are not especially good at the case, of course, but they would be better foremen if they did not have to labor under that handicap. A foreman should be able at all times to tell the men under him how jobs should be set, and that can't be done without possession of practical knowledge and ability to put the knowledge to use.

A composing room foreman should possess a considerable store of information about the history and design of type faces. He works with types daily, and to know something about their origin and the reasons for their existence not only adds to effectiveness in production, but it makes the task in hand, whatever it may be, much more interesting. There is abundant literature on the subject and fortunate is the man, particularly if engaged in typography, whose attention has been attracted and enlisted by it. It is but a step from that point up to a slightly higher plane, that of collecting books of typographic interest. Such a pastime, if it may be so designated, leads to the expenditure of money, but such expenditure is not an expense but an investment—one that brings returns from several directions. I once met a printer who told me he had been at the business for forty-two years, but that in only the last seven had he known what it meant to get real enjoyment out of it. It was his way of saying that for seven years he had been a collector of books on printing and books done by famous printers.

The work of the early masters of typography has never been and never will be surpassed in artistic quality because it is based upon true art principles. The craftsman who is a student able to translate his conclusions into the daily tasks that confront him, with resultant profit both to himself and his employer, is to be envied.

Composing room foremen should, however, not confine their studies to the old masters of printing. They must keep themselves abreast of current tendencies and styles. Sometimes, indeed, their value to their employers is shown by resistance to, rather than acceptance of, current trends many, if not most, of which unhappily are away from true art standards.

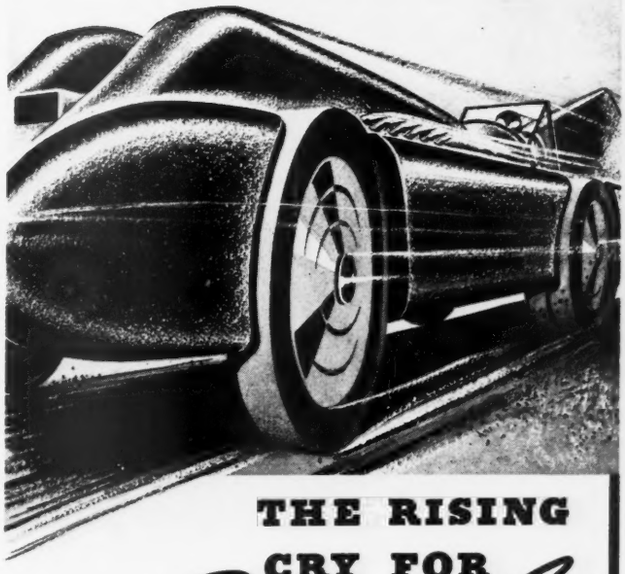
Executive ability is, of course, a prime essential in a foreman. He must plan his program so that the work will be produced at the minimum of expense and effort and at the same time fit in with the other operations of the plant. Each printing house salesman who has access to the workroom can usually be found to be exercising whatever influence he possesses to have his jobs gotten out first. It is needless to say that the foreman should not play favorites. Each job should take its proper place in line and be taken out of line only on orders from the higher-ups. At the same time cooperation with other departments is essential. Waiting time in the pressroom can be avoided by good management in the composing room. Each foreman should remember that his is not the only department in the plant.

I like the composing room foreman who gets along with the equipment at hand, as contrasted with the man

(*Continued on Page 49*)

LEADERSHIP ★

In 1903, the world gasped at the "record-breaking" speed of 68 miles an hour. With modern materials and technical knowledge, Sir Malcolm Campbell with his *Bluebird* has pushed the mark to 300.23 m. p. h.



THE RISING CRY FOR *Speed!*

. . . has raced the tempo of printing presses from the 15,000-an-hour newspaper presses of a generation ago to the modern pitch of 56,000-an-hour in the fastest metropolitan pressrooms today . . . Clean-printing, fast-setting news inks had to keep pace with the increasing speed of modern presses. Since 1840 Morrill research and development have helped to make this printing progress possible. Today Morrill is the largest manufacturer of newspaper black and color inks in the world.

★ **LEADERSHIP!** Faster presses and increased use of halftones demand news inks capable of rapid absorption . . . inks that print clean and don't smudge . . . inks of high color value . . . Morrill research has met this demand with strong, carefully-ground, clean-working inks that cover rough, unequal newsprint surfaces with a smooth, black impression.

MORRILL INKS

"STANDARD OF THE NEWSPAPER WORLD"

GEO. H. MORRILL CO.

Division

GENERAL PRINTING INK CORPORATION

100 SIXTH AVE. • NEW YORK, N. Y.

Factories — Norwood, Massachusetts • Tacony, Philadelphia, Pa. Chicago, Ill. • San Francisco, Calif. ▪▪ **Branches** — Boston New York • Philadelphia • Detroit • Chicago • St. Louis Minneapolis • Fort Worth • Los Angeles • San Francisco • Seattle

Color

Match Box for the Mixing of Inks in Any Quantity

PRESSMEN and color proofers will welcome the Simplified Color Matching Kit recently developed by the International Printing Ink Corporation, New York, N. Y.

The set-up has been designed for the mixing of small or large quantities. The necessity of weighing is dispensed with entirely where small or medium amounts are desired.

The standard letterpress kit consists of eight tubes of ink, three tubes of compounds, special tube caps, a color matching chart containing printed formulas and directions, spatulas, and a glass plate upon which to make the mix.

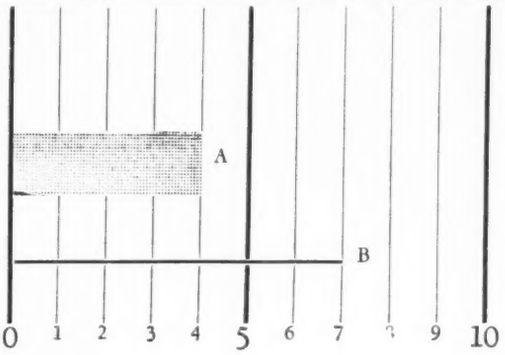


Fig. 1.—Illustrating a section of the vertically ruled glass plate. Arabic figures designate the number of each line. A — Shows a 4 Tube Line Part. B — Shows a 7 Cap Line Part. One Tube Line Part has 25 times the area of 1 Cap Line Part.

Units of Measure

The glass measuring plate is divided into fifty equal Line Parts by a series of vertical black and red lines spaced approximately four to the inch. To facilitate the counting of spaces, each fifth line has been printed in red and all lines have been numbered. Mixing formulas are expressed in two units of measure: (1) Tube Line Parts and (2) Cap Line Parts.

One Tube Line Part consists of a ribbon of ink squeezed from a tube for the space of one Line Part: *i.e.*, the interval between any two vertical lines. (See Fig. 1.) By like token, five Tube Line Parts would occupy five such spaces. Tube Line Parts are shown in the formulas in *black type* and have been printed at the left of each color swatch.

A Cap Line Part consists of a ribbon of ink one Line Part long squeezed through a smaller opering in the special screw cap provided for the tubes for the purpose of measuring very small quantities. Cap Line Parts are shown in the formulas in *red type*. The round hole in the special screw cap is one twenty-fifth the size of the slot in the tube mouth; therefore, one Tube Line Part equals twenty-five Cap Line Parts.

Line Parts or Weight Formulas

Two formulas are shown with each color in the chart, one to the left of the color and one to the right of the color. (See Fig. 2.) The formulas at the left of each color are to be used in conjunction with the vertically lined glass—the Line Parts system. The formulas at the right, representing decimal weights, have been placed on the chart for those special occasions when larger quantities and weighing scales are necessary. Inks from the same formulas, packaged in 5 and 10-pounf cans, may be obtained for this purpose.

The formulas as shown will produce approximately a one-quarter pound mix. However, for color proofing purposes, any fractional part of a formula may be obtained by the simple process of division. Quantities as small as one twenty-fifth of a Tube Line Part may be measured by employing the special screw cap opening.

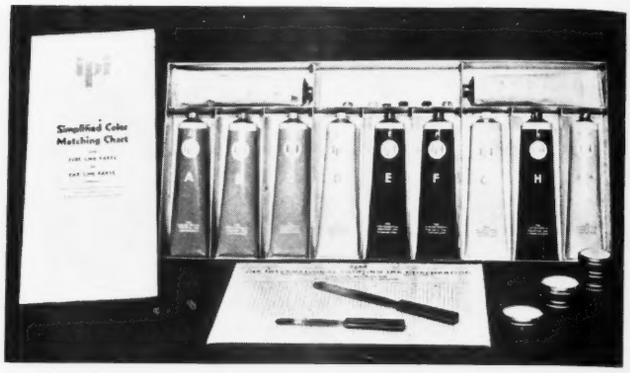


Fig. 4.—The Ipi Color Mixing Kit packed in a metal container. The kit contains 8 tubes of ink, 3 tubes of compounds, special tube caps, spatulas, a color matching chart, and a glass plate upon which to make the mix.

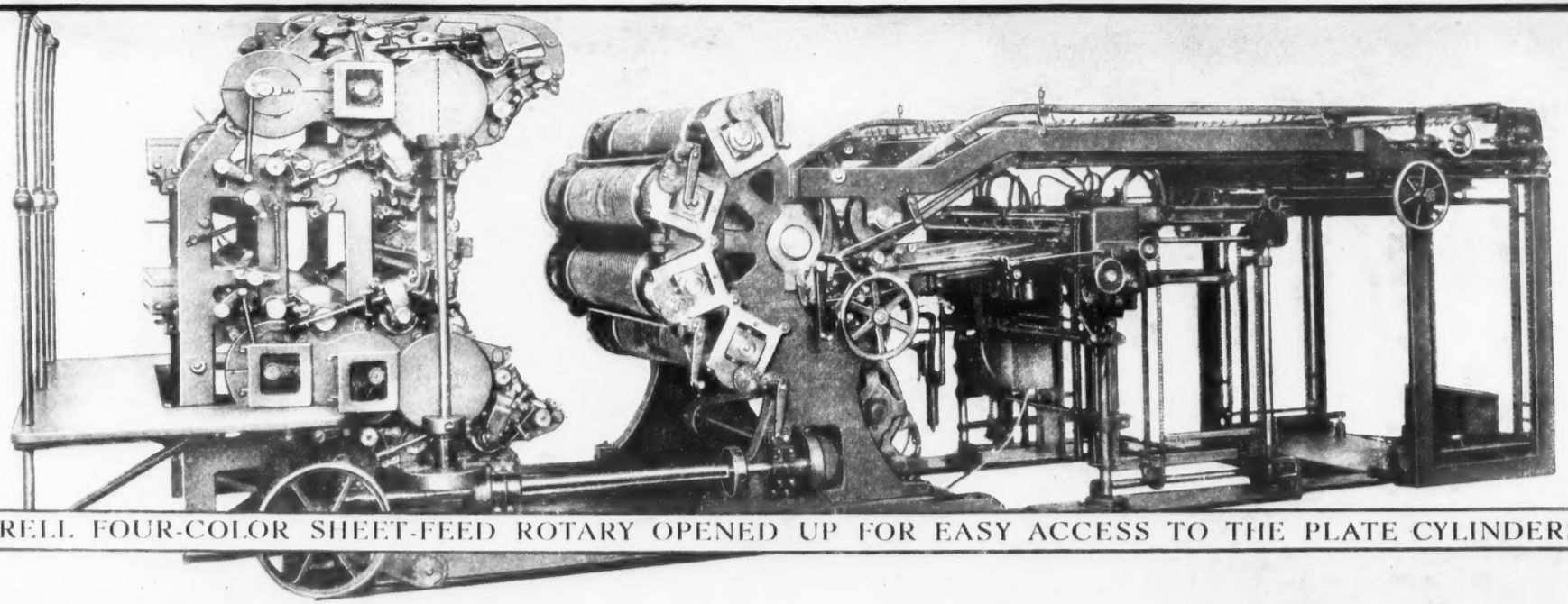
Reducer and Dryer

A tube each of reducing and drying compound is a part of the equipment. The reducer is a paste compound which has been prepared for the elimination of offset, mottle, caking, and sticking. To overcome any of these conditions, it is recommended that no more than *two* Tube Line Parts of reducer be added to every *one hundred* Tube Line Parts of a mixture. It is further recommended that, for every *two* Tube Line Parts of reducer incorporated in a mixture, *two* Tube Line Parts of dryer be added. The dryer is used for the purpose of making an ink dry faster. The inks in the kit contain a normal amount of dryer (overnight drying).

(*Continued on Page 54*)

Line Part Formula		Decimal Weight Part Formula
70 B 70 A 7 H	Deep Red	B 129 A 140 H 11
(Red) 30 C 6 D 100 G	Buff Tint	C 2 D 14 G 238

Fig. 2.—Showing Line Part formulas at the left of the color and Decimal Weight Part formulas at the right of the color. The letters A, B, H, etc., designates the tubes and the colors used. These letters appear in large, bold type upon the tubes. A — Blue-shade Red; B — Yellow-shade Red, and H — Black. See Table I.



COTTRELL FOUR-COLOR SHEET-FEED ROTARY OPENED UP FOR EASY ACCESS TO THE PLATE CYLINDERS

4 colors — 25 x 38 — speeds up to 5500 sheets per hour

4 colors — 32 x 42 — speeds up to 5000 sheets per hour

The above figures are typical of what the smaller Cottrell Presses of today are doing. Larger units print sizes such as 50 x 72, either super or coated, in four or five colors, at speeds up to 4500 sheets per hour delivered in a single pile. • Cottrell equipment also includes a complete range of roll-feed magazine presses, with folders or flat delivery, as needed, delivering sheets or folded products at formerly unheard-of speeds, yet still maintaining a standard of quality that meets the demands of present-day magazine readers and national advertisers. • All of these units have Cottrell's unequaled distribution, perfect register at all speeds, and the latest developments for the economical volume production of fine printing.

•

C. B. COTTRELL & SONS CO., WESTERLY, R. I.

NEW YORK: 25 East 26th Street • CHICAGO: 332 South Michigan Avenue

SMYTH-HORNE, LTD., 1-3, Baldwins Place, Gray's Inn Road, London, E. C. 1

COTTRELL

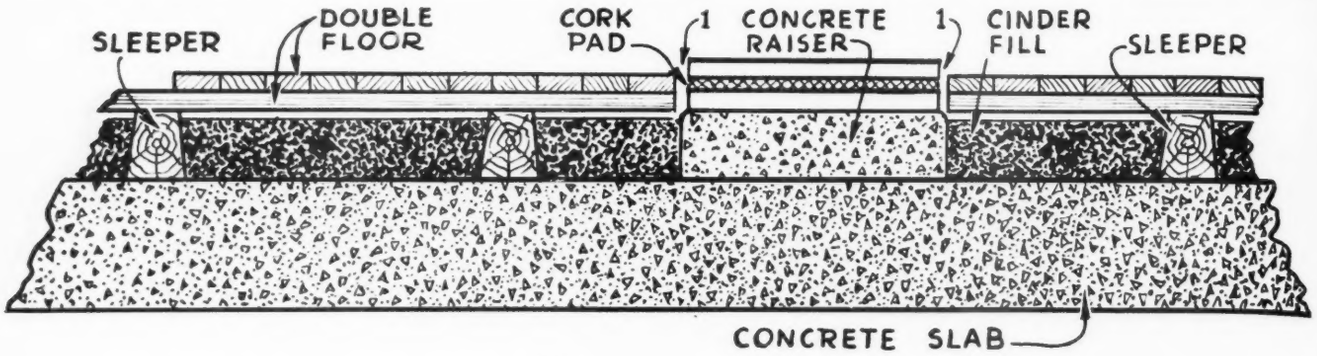


Fig. 1.—Diagram showing method of mounting composing machines upon vibration eliminating foundation in plant of the New Orleans Times-Picayune. *For each machine leg a concrete raiser was laid upon the concrete flooring. Cork pads (one of which is shown in Fig. 3) are placed upon the raisers to support and cushion the machine as well as to insulate the building structure against vibrations generated during operation of the machine. Sleepers are laid upon the concrete slab and double flooring is laid upon the sleepers. A cinder fill is used between the sleepers and the raisers. A ¼-in. open space is provided between the cork pads and wooden flooring. Each concrete raiser is of sufficient height to bring the supporting surfaces of the cork blocks ⅝ in. above the floor level.*

Vibration

Of Line-Casting Machines Isolated At New Orleans Times-Picayune

By GEORGE MYERS

THE proper method of "basing" printing machinery, *i.e.*, cushioning it through seating against contact with the major structure of the building so as to guard against vibration of the machine, has long been a moot question. Problems of this nature with reference to printing presses have been worked out satisfactorily. However, little if any research work bearing directly on line-casting machines has been pursued. With printing plants, particularly newspapers, occupying more and more the steel-and-concrete type of building in recent years, vibration troubles and undue wear on composing machines have become aggravated.

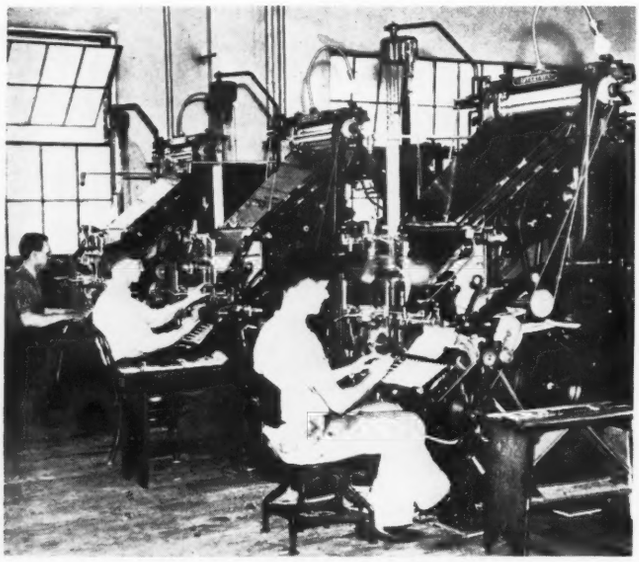


Fig. 2.—View of composing machine section in composing room of the New Orleans Times-Picayune. *All of the composing machines are mounted on cork blocks with special floor construction to eliminate vibration generated by operation of the machines.*

It is well known that where printing machinery rests directly on the floor of a steel-reinforced concrete building, vibrations resulting from the operating movements of that machine are transmitted to every other piece of machinery. If there is a battery of composing machines, the bases of which rest directly on a concrete floor, each machine transmits its vibrations to every other machine. The result is reflected in a large expense item for certain replacement parts and in the early deterioration of the machine. Added to this is the loss of productive time through intermittent distributor stops, unusual wear on the mold locking studs, with the consequent necessity for frequent readjustment of the trimming knives.

While line-casting machine parts are devoid of violent reciprocatory movements, nevertheless operation of the machines involves a series of "stop" and "go" motions. Each time a certain movement in the operation of the machine hesitates, then starts again, a vibration is set up. The down-thrust of the first elevator, its stop; the forward motion of the mold slide, its recession; the movements of the metal pot and justification mechanism; the rise of the first elevator; the descent of the second elevator, its hesitancy for a moment, then its rise to the distributor, together with the movement of the ejector, all transmit the shock or strain of operation to the basic machine, and through the framework of the machine to the floor. Thus it is seen that after such vibration reaches the floor it continues its travel to the steel beams and through them to other machines.

Many plant superintendents felt they overcame the trouble when a heavy wood floor was laid over concrete.

(*Continued on Page 50*)

Fills Long Felt Want

Printing EQUIPMENT Engineer *has been needed by the industry. It fills a long felt want. In fact, it is worth $5 per year of anybody's money.*

James E. Thomas, Composing Room Machinist, Topeka (Kas.) State Journal.

SUN NEWSPAPERS, LTD.
SYDNEY, AUSTRALIA
ORDERS
CLINE HIGH SPEED PASTERS

After an extended personal investigation by Mr. Leslie A. Denison of all the installations of paster devices in the United States and foreign countries the Sun Newspapers, Ltd., of Sydney, Australia, well known for their progressiveness, placed their order for Cline High Speed Pasters because they are the most dependable and efficient.

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CLINE ELECTRIC MANUFACTURING COMPANY CHICAGO
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Paper

Conditioners of Prime Importance to Printing Plants Doing Color Work

By FRANCIS A. WESTBROOK*

THE use of humidifiers and paper conditioning equipment in printing and lithographing plants is rapidly increasing, and has been found in many large establishments to be a distinct aid to economical operation and increased production. A great deal has been written about the need of controlling the moisture content of paper and it is of vital importance to all who deal in this commodity, including the manufacturer, the printer, the lithographer, the binder and so on through the list. The difficulties encountered due to uncontrolled moisture in paper and the means taken to control it may be best illustrated by referring to the experiences of several large concerns which have been successful in meeting this troublesome problem.

R. L. Sale of the Sale Lithograph Company, Buffalo, N. Y., says that the tendency of paper, especially in large sheets, to adapt itself to the surrounding air conditions, and to either take up or throw off moisture accordingly, has always been a source of trouble to lithographers and one which has to be guarded against carefully. "The first step," he says, "taken in the direction of conditioning paper was the use of wooden racks on which the paper could be piled in small lifts of 50 to 100 sheets, according to its thickness, and left for various periods of time to adapt itself to the surrounding atmosphere. This method was improved upon by a device by which the paper was hung in the same qualities suspended from two corners. It was an improvement in the speed of handling and perhaps in a little more rapid conditioning but still took one to three days to get good results. Later developments brought forth the air conditioner of which various types are made. The one used in our shop has proved very satisfactory. This consists of a series of compartments, open at the top, with many small slot-like openings at the bottom through which a strong current of air is blown up through the sheets, the paper being suspended by the same type hangers mentioned before. This accomplishes in a few hours what formerly took us from one to three days."

Of course, it is obvious that if moisture content is not uniform in the sheets there will be poor register which is so important in lithograph work, and if the content is not right for the particular paper being used there is likely to be trouble from curling, poor folding, etc. Every grade of paper varies in the amount of moisture it should contain for the various printing processes, and as this is known, the only way to obtain it with surety is to adopt the means of controlling it. After the paper has been treated it is, of course, necessary to maintain it at the proper degree of conditioning. For this purpose many establishments make use of automatically controlled humidifiers which keep the atmosphere of the room so that the conditioned paper will neither give off nor rake on moisture.

This is well illustrated by the practice of the F. A. Bassette Company, Springfield, Mass. Humidifiers have been installed in all of the departments in which paper is handled. In addition a conditioner box is used for conditioning paper for certain types of work. This has proved very satisfactory. The company uses nearly every grade of paper a commercial printer uses, including sulphite writing, book and cover papers (both coated and uncoated), also bond, ledger, book and cover papers having rag content from 25% to 100%. It has been found that "less trouble is encountered with work involving two or more colors in close register if the paper is first properly conditioned by the use of the conditioner box, and then maintaining the same moisture content in all departments in which the paper is handled."

The Livermore & Knight Company, Providence, R. I., has had much the same experience. Formerly the paper was conditioned for lithographing by hanging it on racks suspended from the ceiling. This process took at last 24 hours and this was reduced to 3 hours by the use of the conditioner box, which naturally meant a great saving and a large increase in production. T. F. Brennam of this company says: "We very seldom have any wrinkles in our paper now and we run as many as ten colors with almost perfect register. Before we installed this equipment (including humidifiers) we were constantly in trouble due to changes in temperature and rising humidity and repeatedly had to shut presses down or make plates over to insure perfect register in the work. We have now installed humidifiers in the pressroom and bindery and are getting equally good results. We formerly had trouble during dry weather in folding coated paper as the moisture would dry out and the paper would become brittle and give a raw edge in folding. Now, due to the humidifiers constantly keeping the air moist, we have practically eliminated troubles of this kind."

General Superintendent, Christian Olsen, of the Manz Corporation, Chicago, refers also to another advantage of humidifying the air in his press rooms. He says, "It is of great benefit in all our operations, as it reduces static electricity, increases the folding strength of the paper, reduces waste and naturally increases production. We aim to keep our pressroom approximately 80 deg. F., and the humidity from 40 to 50 deg. relative."

*Mechanical Engineer, Center Conway, New Hampshire

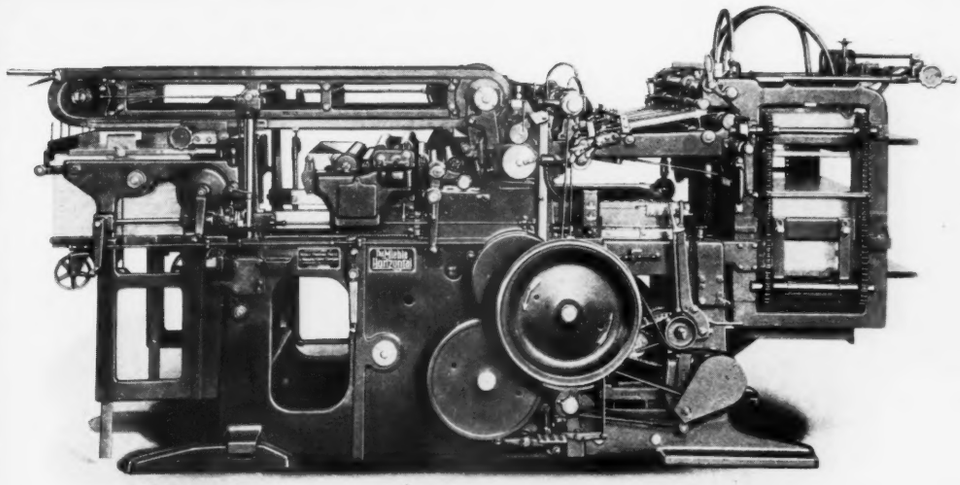
Clarification

Through an oversight in Mr. Tranter's article on the Govier Photoprint process of advertising composition in the January issue of *Printing* EQUIPMENT *Engineer* a vague meaning was conveyed on page 34 where it was stated: "A complete engraving of the final photostat is sent to the composing room." While this is literally true, it could be construed to mean that the engraving is made from the photostat rather than from the master pasteup described in the article.

The photostat mentioned is for the advetiser so he may mark any corrections or alterations desired. The changes indicated are then made by the printer on the master pasteup which is sent to the photoengraver. It was made clear in the article, however, that photostats of advertising pasteups are sent to the advertiser in lieu of conventional proofs.

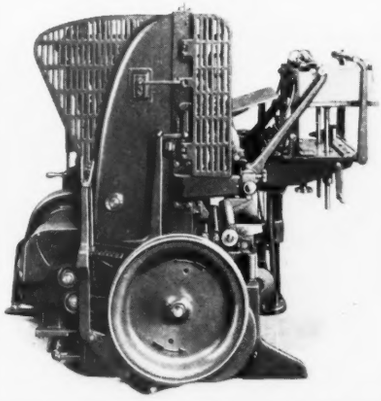
As a matter of technical information, Mr. Tranter states that engraving reproduction direct from photostatic copy is not practicable. However, larger size type faces are frequently reproduced direct from photostats, and whenever a reverse plate is necessary for the master pastup a photostat negative is nearly always used. The photostatic reproduction of a drawing made up of very fine lines or halftone dots cannot be used for engraving because the tendency is for photostats to build up very fine lines and give fuzzy edges to halftones.

More Billable Time Per Day



The Miehle Horizontal

2000–3600 PER HOUR
ACCURATE REGISTER
QUALITY PRINTING
SHEET SIZE up to 22" x 28"



THE MIEHLE VERTICAL

STURDY – COMPACT
2500 – 4500 PER HOUR
SHEET SIZE UP TO 13½" x 20"

MIEHLE PRESSES
Speed Up Production

When the job tickets are turned in—that's when you notice the difference with the Miehle . . . less time spent on makeready, setting ink fountains, regulating feeder, side guide . . . longer runs at sustained high speeds without costly stops for adjustments. Though operating cost may be the same, Miehle Presses, by giving greater volume per day, assure more billable time.

A fast running press that gives accurate register, positive impressions, and fine printing results, the Miehle Horizontal will handle anything from news-print jobs to fine color printing without any change in the machine itself.

The Miehle Vertical is a speedy, convenient, economical press for fine or ordinary job work.

Write today for full information on either of these presses or any press in the complete Miehle line.

MIEHLE PRINTING PRESS & MFG. CO.
FOURTEENTH AND SO. DAMEN AVE., CHICAGO

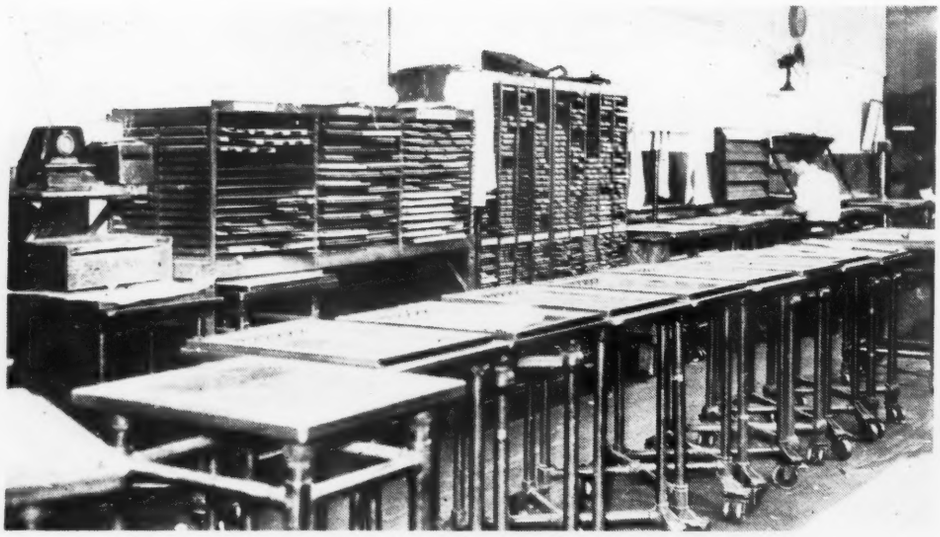


Fig. 1.—In the composing room of the Des Moines Register *and* Tribune *it was necessary to provide additional type storage space for live and future matter such as is handled in a daily newspaper plant, as well as to provide increased space for making up pages. The needed floor area for this purpose was not available. The problem was solved when Leon A. Link, superintendent of the composing room, installed makeup tables as shown in Fig. 2. In this view is shown a section of the makeup department before installation of the new equipment.*

Makeup

Tables Used to Solve Problem of Needed Floor Space

By Leon A. Link*

WHILE there is nothing new in the idea of using makeup tables in a newspaper composing room, it occurred to me that since makeup tables are used only in a small percentage of newspaper composing rooms, some of the benefits to be derived through their use in a plant where floor space is at a premium would be interesting to mechanical executives.

Several months ago makeup tables were installed in the *Register* and *Tribune* composing room. By way of explanation for those who are not familiar with our operation, we publish morning, evening and Sunday papers in this plant. Consequently, much more type, plate and advertisement storage space is required than would be the case in those composing rooms handling only one publication. Also, we have a syndicate department and have a number of color pages standing at all times, such as comics, magazine feature pages, as well as new serial stories and so on. For these reasons, since additional floor space was not available, it was imperative that additional storage facilities, as well as imposition surfaces, be provided.

Storage space is provided below the work tops of the new tables for approximately 4000 single-column galleys of type matter. In addition, we now have ample storage facilities for two, three, four, five, six and seven-column advertisements with extra space for future growth. About 160 pages of advertisements or made-up pages can be stored under the tables and with the new equipment we now have makeup space for 28 additional pages.

We have laid out the tables and storage so that in addition to speeding up the makeup of the daily editions, the Sunday paper is made up with the least amount of lost motion or retracing of steps by the makeup men. The Iowa section matter which is used in the Sunday edition is filed under the particular table where that section is made up. The same filing plan is followed with respect to general news, sports, society and want ads.

To avoid congestion in our plant we find there is no particular advantage in delivering forms to the stereotype department at a more rapid rate than the forms can be put through the mat roller. For this purpose, we use five transfer trucks to deliver page forms to the stereotype department as well as to restore them to the proper location on the makeup tables in the composing room.

All future type is stored immediately adjacent to the table upon which it is to be made up. Each galley of type or advertisement is stored and marked according to a storage file number so that it is a simple matter to locate it when needed.

An important production item for the makeup man is that all the needed spacing material and rules used in making up pages is provided in a special rack on one side of each table. Most of the tables are provided with waste metal trucks under a section of each table top. This feature cuts down "traffic" to an appreciable extent.

Fig. 2.—This view of a section of the makeup department in the composing room of the Des Moines Register *and* Tribune *was taken at the same angle as that shown in Fig. 1. By installing makeup tables, Leon A. Link, composing room superintendent, was able to eliminate a type storage problem. All storage is now carried in suitable galley slides under the makeup table tops. All overhead cabinets have been eliminated and the view across the department is improved.*

*Superintendent of the Composing Room, Des Moines *Register* and *Tribune*.

Fully Protected by United States Letters Patent

ARE

Available in

COLORS

Two billion (2,000,000,000) impressions in black and colors have proved that you can have absolute freedom from smear, smudge and offset in publication and letter-press printing.

Frederick H. Levey Co., Inc. 59 Beekman St. New York, N. Y.

This is W. W. ("Bill") Spaulding, Art Editor of the Gannett Albany Knickerbocker Press *and* Evening News. *His career as a newspaper mechanical executive is interesting. When a youngster, he was selected from among twenty applicants for apprentice training in photoengraving department of Binghamton* (N. Y.) Press. *Came 1913, he treked to Liberty Engraving Company, Pittsburgh. When 25 years of age, he became night foreman. During World War he enlisted as a seaman and emerged in 1919 as first class petty officer. In 1922, W. W. was put in charge of Albany* Knickerbocker Press *engraving department. Later, when the Albany* News *was added to* Knickerbocker Press, *he found himself with big engraving job on his hands. In 1929 he was made Roto Picture and Art Editor in addition to directorship of engraving department. He is married and has a son in St. Lawrence University. Is a golfer and is afflicted with that printers' disease which is known as bowling. Says W. W. Spaulding: "I've never been sure of my job. I believe when a fellow gets to the point where he is 'sure of his job' he begins to let down at that moment and his value to the firm begins to diminish."*

Art

Responsibility Centralized in One Person on Albany Papers

By John A. Burke*

SINCE newspaper publishers and editors have become "picture conscious" within the last few years, a problem has been created in many newspaper plants. The problem is not to devise ways and means for obtaining illustrative material, nor does the problem lie in the mechanical departments where so much is dependent upon good work in the engraving department and the stereotype foundry. The difficulty is in being able to obtain the services of a man who possesses judgment as to whether a picture will make a good newspaper reproduction, how it shall be handled, how it shall be prepared, and on occasion one who shall be clothed with the authority to say "No!" if, in his judgment the photograph will not appear to good advantage in the printed sheet.

It is not necessary to state that the centralizing of responsibility with respect to pictorial quality *should* produce good results because if the original copy isn't suited to the limitations of newspaper printing, all the good work of the photoengraver, the stereotyper or the pressman won't produce good results. In other words, the major part of newspaper illustration lies in the proper preparation of copy. In order to carry out the idea, however, it is necessary to secure the services of someone possessing the ability to judge reproduction possibilities of photographs and clothe him with the authority to secure results.

In 1929, the results obtained from the illustrations in the Gannett papers in Albany were way below the average. After a three months' study of operation it was evident the trouble did not lie in the engraving or stereotype departments nor in the pressroom, since these departments were watching all the details in an effort to print good illustrations. It was found the trouble was in the lack of preparation of copy. After trying several ways to get better copy, it was decided to put the responsibility of copy up to the man who made the cuts. The management then created a new position to be known as Art Editor. At the time there was considerable opposition to the idea, due to the fact that the centralization of authority had not been tried previously.

The late Walter P. Plummer who was then editor of the Albany papers, appointed William W. Spaulding, then in charge of the photoengraving department, as Roto, Picture and Art Editor. He was placed in full charge of the photographic staff, the dark room, the artists and the engraving room. All requests for pictures by the editorial department are made to Mr. Spaulding and he in turn gives assignments to the photographers. After the pictures come from the dark room he advises whether or not they will make good cuts and what size the cuts should be. He also functions to instruct the artists about retouching, cropping, and so on. All layouts for the theatre and society sections in the daily and the roto section are made under his direction.

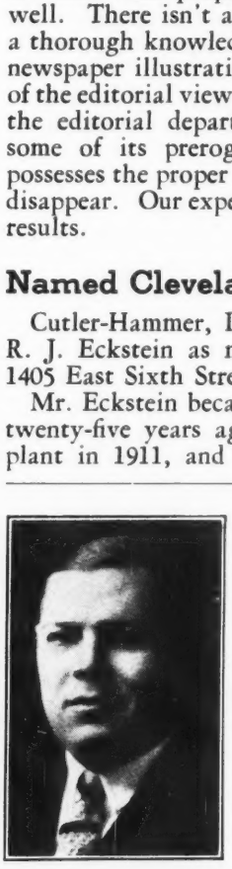
It is our opinion that a man who has had training in an engraving department, provided he possesses ability along the lines of what we are pleased to term Art, should be better fitted as an art editor than one without such training who might be selected from the editorial staff. In fact, the successful functioning of an art editor is dependent upon abilities which few men possess. As a further note, the creation of such a position in a newspaper plant may be attempted with some risk, but if a man with proper abilities can be found, all will be well. There isn't any doubt but what he must possess a thorough knowledge of the mechanical limitations of newspaper illustration as well as a proper appreciation of the editorial viewpoint. In initiating such a program, the editorial department may feel it is relinquishing some of its prerogatives, but if the new executive possesses the proper qualifications, this feeling will soon disappear. Our experience in Albany has brought happy results.

*Production Manager, The Gannett Newspapers, Rochester, New York.

Named Cleveland Manager

Cutler-Hammer, Inc., announces the appointment of R. J. Eckstein as manager of the Cleveland office at 1405 East Sixth Street.

Mr. Eckstein became associated with Cutler-Hammer twenty-five years ago. He started at the Milwaukee plant in 1911, and worked through practically every department before going to the Cleveland office. A major portion of his career has been devoted to the application of electric control to motors in every phase of industry. He possesses a thorough knowledge of lifting magnets, brakes, valve control, and so on for general application as well as for specific industries in the Cleveland territory.



R. J. Eckstein has been named Cleveland manager for Cutler-Hammer, Inc.

New HOE
26-Unit Super-Production
MULTI-COLOR PRESS
for the

CLEVELAND PLAIN DEALER

THE LARGEST, FASTEST, MOST MODERN EVER BUILT

AFTER a thorough investigation of all makes of color presses by its mechanical experts, the Cleveland Plain Dealer which has been a consistent user of Hoe Presses again chooses Hoe. With its new Hoe Super-Production Multi-Color Press the Cleveland Plain Dealer will gain . . .

Higher Speed and Greater Net Production

40,000 papers per hour is the pace-setting running speed at which this modern press will simultaneously print, fold, and deliver both the comic and magazine sections of the Cleveland Plain Dealer . . . the result of Hoe's advanced press engineering.

Continuous and More Economical Operation

Four Hoe 3-Arm Reels with Hoe Full-Speed Pasters and electrically-operated Web Tensions . . . will assure continuous operation at this high rate of speed and practical elimination of waste from slow motion copies and loss of register.

Time Saving and Economy

Plate registering time, the cause of many idle press hours, will be reduced to a minimum by the Hoe Precision Plate-making Machinery which will be installed with the Hoe Multi-Color Press, by the use of quick-registering plate clips, and by other new mechanical advantages.

BRING YOUR COLOR PROBLEMS TO HOE

R. HOE & Co., Inc.

• General Offices •
910 East 138th Street
(at East River)
• New York City •

BOSTON SAN FRANCISCO CHICAGO

Fig. 1.—Editor's desk station of news copy flow system in plant of the Decatur (Ill.) Herald *and* Review. *When the red light is illuminated in response to the throwing of a switch by the copy cutter in the composing room, the editor is informed that the composing room is* out of copy; *when a single white light is illuminated the editor knows that the composing room is* short of copy, *or if the remaining pair of white lights is illuminated the message from the composing room is that there is* too much copy. *Owing to the convenience of the system and the cooperation of the composing room, it is not necessary for the editor or his representative to make frequent trips to the composing room.*

Control

System Provides Means for Regulating and Recording Copy Flow

By J. H. MINTUN*

MOST printing plant executives know the value of recording instruments in tracing trouble to its source. We have made an application of a recording instrument to settle one of the most controversial questions in newspaper production—that of news copy flow.

The instrument reveals graphically the copy situation in our composing room every hour of the working day.

We have the conventional warning lights between the composing room and the editorial room, using a two-light system to tell the editors that the composing room is (1) short of copy, (2) out of copy, or (3) too much copy. A white light shows *short of copy*, a red light shows *out of copy* and when both lights are on that there is *too much copy*.

While these lights in themselves improved the flow of copy to our composing room, they also led to some difference of opinion as to how much the red light was on or how much both lights were burning whenever we had trouble in going to press.

To overcome this trouble, we made this automatic recorder to trace the condition of the lights over a 24-hour period. The recorder operates on a simple plan. Whenever an electrical impulse operates the light at the editorial end of the system it also operates a solenoid in the recorder to change the position of a pen arm about ¼ in. These pen arms record on a chart driven by a 24-hour clock on a conventional clock chart drive. Whenever the line shows out of position, the light has been burning. It is a simple matter to check the chart and show either the editor or the composing room superintendent the exact situation of the copy and place responsibility according to the verdict of the chart.

While there was some resentment at the time of installation, both the composing room and the editorial department have realized that the light is fair and only records a condition as it actually exists.

The lights, by the way, are operated by the copy cutter in the composing room.

The recorder has enabled us to have a smoother flow of news copy to the composing room by showing whatever weakness we have had in getting news copy. It has also made it possible for the editors to plan their work better and has done much to call to their attention the fact that while news may happen all at once it cannot be set just as quickly and that the planning must come from the editor himself.

The system has enabled the composing room to set up on a definite basis the amount of time to devote to news composition early in the day in order to avoid calling on the ad department for help every day. This last condition has enabled us to run our ad room on a much more efficient basis.

Another feature of the light-and-recorder system is the reduction of traffic in our composing room. It is no longer part of the editor's job to make frequent trips to our composing room to see how his copy is going up or if the composing room needs copy. By experience, he

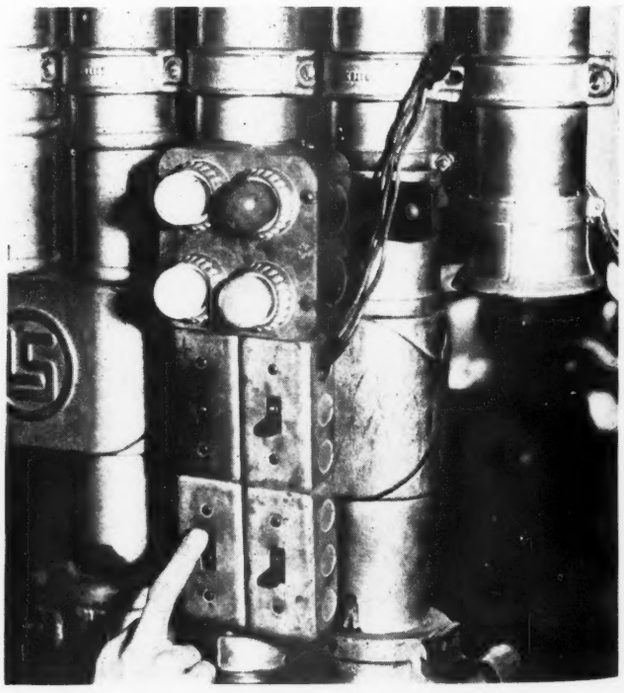


Fig. 2.—Control station of copy flow control system at copy cutter's desk in composing room of the Decatur (Ill.) Herald *and* Review. *The copy cutter manipulates the toggle switches to indicate to the editor the situation with respect to the flow of copy from the editorial department to the composing room as is explained in Fig. 1.*

*Production Manager, Decatur Newspapers, Inc., Decatur, Ill.

KEMP Guarantees 40 Percent Saving

. . . but the TULSA TRIBUNE Reports 95½

SOMETIMES our customers make us blush . . . so let us use *their words* instead of our own. The following is excerpted from a paper presented recently before the 1935 Mechanical Conference at Galveston, Texas, by J. T. Cargile, treasurer of the Tulsa Tribune:

"The Tulsa Tribune was using a twin-pot for Junior AutoPlate casting, and two smaller pots—one used for casting plates for our magazine and comic press—the other for job work.

All of these pots were heated by submersed electrical heating units until ten months ago, when we installed the C. M. Kemp immersion gas heating units . . .

We do not have meters for each of our departments, consequently in calculating the savings we were forced to take our entire electrical bill and see what happened with the new system.

There were no changes made in our electrical set-up, except the change in the stereotype department, so we could compare our monthly bills and determine what happened.

This we did, and found that for the ten months we have saved an average of more than $550.00 monthly on our electric bill, with an increase of approximately $25.00 monthly in our gas bill, or a net savings of $525.00 each month. 95½% "

And, at the risk of being anti-climatic, we repeat that Kemp *guarantees* to save 40 percent or more for *you*. Maybe we can do still better . . . but how can we tell unless you invite us in to look over your plant? Write today to **The C. M. Kemp Manufacturing Co., 405 East Oliver Street, Baltimore, Md.** No obligation, of course.

KEMP of BALTIMORE

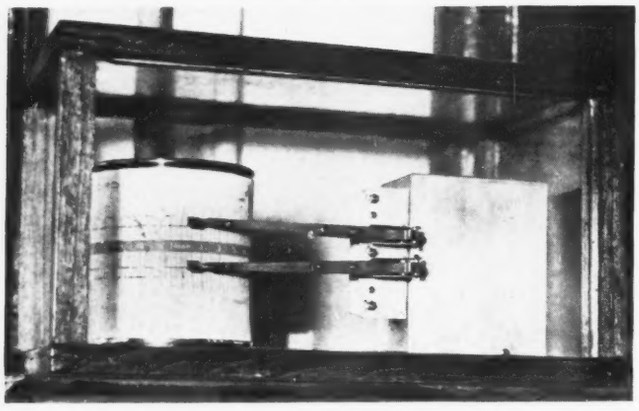


Fig. 3.—Automatic recorder applied to copy flow control system in plant of the Decatur (Ill.) Herald *and* Review. *The recorder is operated over 24-hour periods in connection with a light signal system in the editorial department and the composing room. When a light is turned on in the editorial department by the copy cutter in the composing room, as is explained in Fig. 1, a solenoid automatically operates to change the position of a penarm which will remain in the changed position as long as the lamp is illuminated. In this manner a permanent record is provided as to the duration of indicating signals in case it is necessary to determine the cause of delay in getting to press.*

knows now about how fast the copy is handled but on the other hand, the lights tell exactly how things are going in fact.

It has been our experience that the manual operation of the lights is more or less fool-proof because of the vigilance of the two departments concerned. If the red light is on a little longer than the editor thinks it should be after he sends out copy, everybody concerned soon hears about it.

New Blue

Pigment For Printing Ink Has Desirable Properties

SINCE the recent announcement of the development of Monastral Fast Blue BS by Imperial Chemical Industries, London, color users all over the world have been taking hasty steps to investigate the possibilities of the new blue pigment for their own particular purposes says the editor of the *American Ink Maker*. First reports indicate that the new pigment will find many important uses in the printing ink field.

In considering the available blue pigments, it is found that they all possess inherent faults which render them unsuitable for one purpose or another. Ultramarine is destroyed by acids, even in a dilute form; Prussian blue is destroyed by alkalies. In the organic field, the blue lakes from the coal-tar dyrstuffs and certain water-insoluble blue dyestuffs, while meeting the needs of some industries, are entirely unsuitable for others.

Considering its potential importance to the printing ink industry, spectro-photometric analysis shows Monastral Fast Blue BS is the nearest approach to the ideal trichromatic blue yet produced. In three-color printing, it supplies the need for a true "minus red" pigment. With a broader reflection band extending on both sides of the blue-green portion of the spectrum than the standard blue-green ink of the Federation of Master Printers, it will thus not only give, by admixture, better greens and purples, but should greatly increase the range of three-color work generally. Moreover, its all-round fastness, good-working properties, ease of wetting, and brilliance make it particularly suitable for such exacting printing operations as soap wrappers; while its heat resistance enables it to stand up to the number and severity of baking operations required in multi-color tin-plate lithography.

A series of tests on the new blue have recently been made by E. S. Hanes and J. D. Cohen of John Kidd & Co., Ltd., London. These investigators report that trichromatic ink made with the new blue is definitely superior to British standard trichromatic blue, hitherto as good as any all-round three-color blue that ink-makers have obtained.

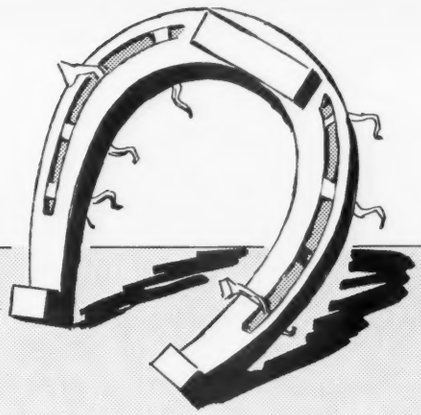
When a three-color subject was printed with the three British standard inks and the result was compared with a similar print made with the British standard red and yellow but with a trichromatic blue made from Monastral Fast Blue, it was reported by Hanes and Cohen that the new blue was superior to the old, in that not only did it give good greens, but also it gave brighter purples. Color printers have often had difficulty in obtaining results showing fairly bright shades of greens, turquoise blue, and violet all on the same print, but now it is possible to approach definitely nearer to the successful rendering of a three-color subject involving such combinations of colors.

The new pigment is described as being exceptionally strong in color value, being over double the strength of bronze blue pigment and about eighteen times as strong as ultramarine. This fact alone makes possible its commercial development as a printing ink color, for otherwise the cost of ink made therefrom would be absolutely prohibitive. The only blue pigments of comparable strength are lakes made from certain dyestuffs, these latter, however, have certain other disadvantages, it is stated.

Inks made with the new blue are described as extremely fast to light, being faster than inks made from lake pigments of the phophotungstate type, and of course, very much faster than other lake blues. The new blue is extremely fast to heat; it can be heated to temperatures up to 390 deg. Fahrenheit (200 deg. Centigrade) without spoiling.

It is described as absolutely fast to acids. In this respect it is, therefore, far superior to ultramarine, which is very readily attacked by acids. It is absolutely fast to alkalies as well. It is even faster than blues of the phosphotungstate type which themselves are fairly satisfactory. In this respect, of course, bronze blue is quite unsatisfactory, because its color is so readily destroyed by alkali. Ultramarine is, of course, resistant to alkali, but it has other properties that are rather unsatisfactory. For all work in which blue inks are required which must withstand alkali (e.g. soap cartons, etc.), the new blue is well worthy of consideration. More recent investigations have shown that the new blue is extremely fast to alkalies even in the presence of oxidizing agents. As certain washing materials contain active oxygen, the new blue is very useful for cartons and other materials which contain these products.

Fastness of the new blue to alcohol is also a very valuable property, as it indicates that prints produced with inks made from Monastral Fast Blue B.S. can safely be varnished, provided of course the ink itself has dried to a hard film. It is well known that the vast majority of ink pigments are varnishable under favorable conditions, but the existence of a blue ink having all the above properties, which can also be used for this purpose with full confidence, will no doubt appeal to a large number of printers whose work frequently requires varnishing.



A story about a horseshoe nail

"FOR lack of a nail, the shoe was lost." You remember the consequences—the horse was lost, the leader lost and finally, the battle was lost.

All pointing to the dominance of little things as arbiters of success or failure.

To win the production battle, many horseshoe nails demand attention—small but potent factors that make themselves felt only by failure to function as they should.

Among them is the dry mat. For lack of fit and uniform mats, the stereotyping goes wrong, so does the edition, the schedule, the profits, the prestige—all of which could have been changed to satisfaction by timely attention to an item of trifling cost.

For dependable stereotyping, rely on Certified Mats, made in the U. S. A.

Certified DRY MATS

Certified Dry Mat Corporation
338 Madison Ave. New York, N. Y.

Copper

Segments Fastened Experimentally To Stereos for Halftone Printing

By J. S. Atkinson*

DURING the last few months we have been experimenting with engravings in an attempt to improve the printing quality of newsprint magazine reproduction. In this endeavor we have inset segmentary copper halftones into conventional stereotype plates so as to print directly from the copper halftones. As part of our *Star Weekly* we have a 16-page, 7-column color magazine section carrying, usually, from four to six illustrations in color, some in four-color and some in two-color illustrations. Then, too, we carry many black-and-white engravings in line, halftone and combination.

Recently, one of our staff suggested that we experiment with copper engravings shaped to fit the curvature of stereotype plates as a means of retaining halftone dot formation which otherwise might be lost in stereotyping.

In considering ways and means to improve the appearance of the illustrations, we were afraid zinc could nor be bent accurately to stereotype plate curvature without damage to the printing surface. We decided to transfer certain engravings which were to be curved to copper for several weeks. After the usual molding in page formation, the copper engraving was removed from the form and shaped to the proper curvature to fit the stereotype plate. The stereotype plate was taken to the router and the area to be occupied by the curved copper segment was routed out to the proper depth to bring the copper plate to the same height as the balance of the stereotype plate carrying the type.

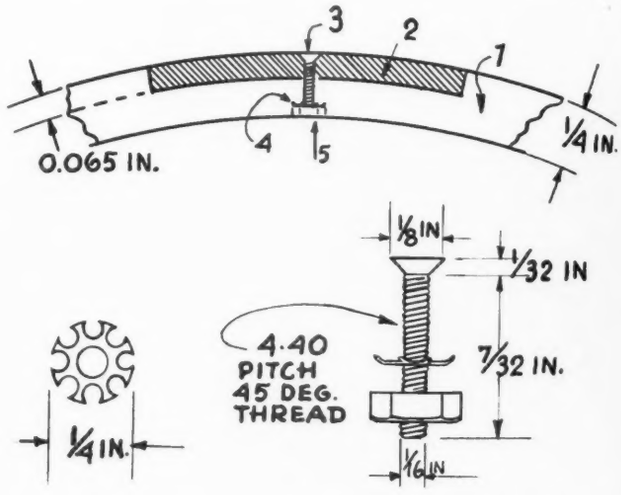
Our first trouble occurred when we attempted to curve the copper segment accurately. After several experiments it was found that the ordinary bending machine used by tinsmiths worked satisfactorily without distorting the dot formation on the plate.

Difficulty was then encountered in devising a way to fasten the copper segments to the stereotype plate. We finally developed a flat-head bolt with a very wide bevel and no head-slot. This bolt was put through a hole drilled previously in the plates and countersunk into the copper. The bolt assembly carries a vibration-proof lock washer on the inside with a nut riveted on the screw shank. Generally speaking, the bolts were placed 1½ in. apart around the bevel of the engraving, following the outline of the plate as routed. Several of the bolts usually were placed in the center of the engraving wherever possible, particularly in line drawings.

One plate was lost the first week but by improving the method of mounting, and by increasing the number of bolts, many of the copper engravings held tightly for half the full press run, or approximately 180,000 impressions. These 85-line screen copper engravings were fastened to the stereotype plates after the latter had been nickeled. The copper engravings showed no signs of wear after the press run.

There was some difference of opinion among our executives as to the results secured from the copper engravings as against the same engravings reproduced by the conventional stereotyping method. However, I maintain there is considerable improvement in the middletones and highlights as against the printing secured from a stereotype plate roller-molded from the same engraving and cast in the usual way. The dot formation in the copper was light and did not tend to cloud like the equivalent stereotype. When makeready was put on the impression cylinder the copper engraving did not give way under the increased pressure as it apparently was able to stand a heavy impression.

We experimented to a certain extent with color engravings but decided a bit too much work was involved to justify the improvement. We are now carrying out further experiments with direct pressure and plastic mats, although for our operation we are anticipating a collect run (requiring only one plate per page) which makes the single copper plate mounting most attractive.



In the plant of the Toronto (Can.) Star *illustrations for the* Star Weekly *were printed direct from copper halftones inset into ¼-in. stereotype plates during the past several months.*

At 1 *in the upper diagram is shown a section of ¼-in. thick stereo plate, cross-section view. A copper engraving* 2, *(0.065 in. thick) has been inset into the stereotype plate. The segmentary copper engraving which has been rolled to fit the curvature of the stereotype plate is held in place by means of the special screw or bolt* 3. *The screws extend through both the copper engraving and the stereotype plate. A steel lock washer* 4 *and lock nut* 5 *complete the plate fastening means. The hole for the screw and lock washer is counterbored so the end of the screw will be flush with the inside surface of the plate after the screw has been riveted and dressed. The screws are spaced approximately 1½ in. apart.*

In the lower diagram (enlarged and not drawn to scale) are shown the component parts of the bolt or screw used in the plant of the Toronto Star *to fasten inset copper halftones directly into stereotype plates. The screw heads are not slotted. The small star-shaped lock washer is approx. ¼-in. diam. from point to point and the points are curved slightly and are spring tempered.*

In our opinion, this method of printing from mounted copper engravings has distinct advantages. It duplicates electrotyping without the cost of installing electrotyping equipment or having electrotypes made by some outside concern. If we cannot equal by direct pressure and plastic mats the results obtained by printing direct from the copper engravings, we may be tempted to resume this method, although admitterly we have not yet ironed out all the difficulties.

*Assistant Manager, The Toronto *Star*.

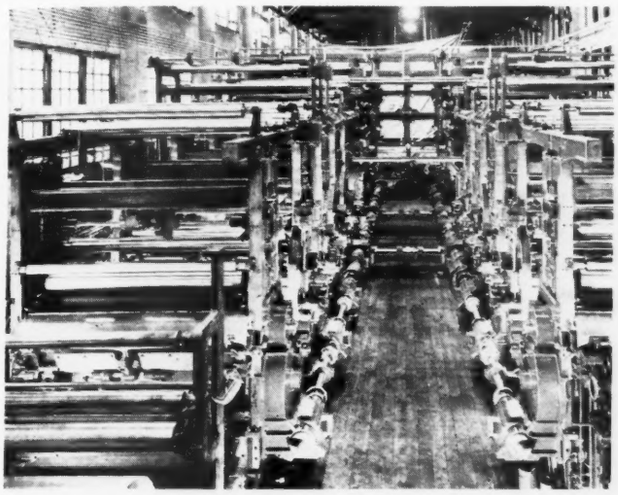
Petroleum Distillate

Type cleaners commonly compounded from petroleum distillate may be used for washing composing machine keyboard parts in place of gasoline. Most gasolines contain lead which is objectionable for this purpose.

Goss Exports Large Roto Order

Sixteen carloads of rotogravure presses bound for England means more than a sizable sale for The Goss Printing Press Co., Chicago. It is a tribute to the engineering ingenuity and progress of manufacturing methods in this country. For many years, both European and American publishers have imported rotogravure equipment from Germany. So when Odham's Press, Ltd., London, decided to purchase $500,000 worth of Goss Speedry gravure presses it was a new step in American export trade.

These Goss Speedry presses are capable of producing the finest four-color newspaper and magazine work at 30,000 to 45,000 copies per hour from one delivery. A



lacquer-base ink is used, because of its rapid drying qualities. This ink is fed to rapidly rotating cylinders from air-tight fountains which are patented by the Speed-Dry Corporation. Ink is pumped automatically to the fountains, separated many different ways inside the large fountain to insure even distribution and constantly agitated to maintain the proper consistency. Fully automatic tension devices control the web of paper. The paper is brushed and suction-dusted as it leaves the reel.

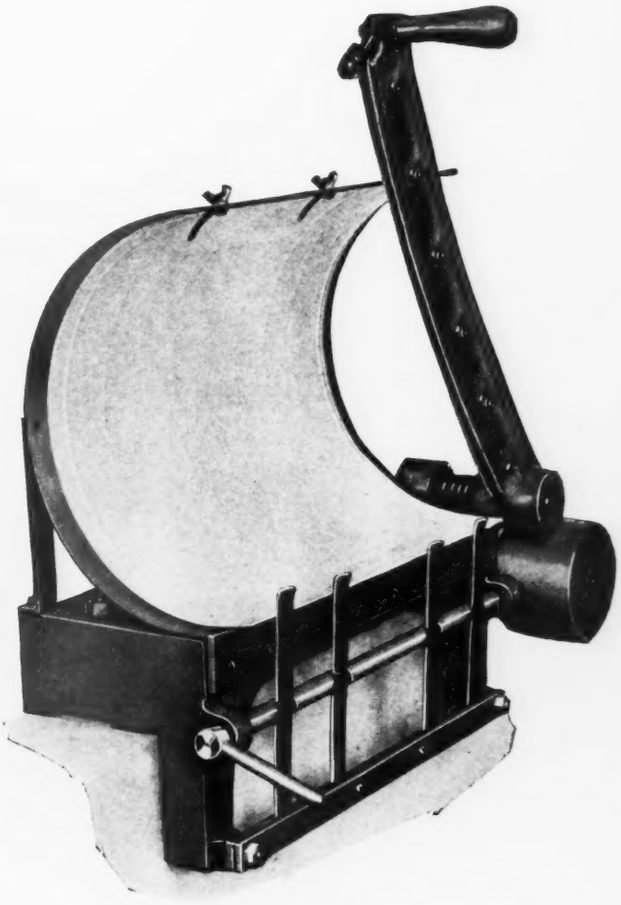
Similar presses are in use in the United States at the New York *News;* Alco-Gravure, Inc., of Chicago, and the Crowell Publishing Co., Springfield, Ohio.

In the Chicago plant of Alco-Gravure, the Goss Speedry gravure presses handle more than 8,600,000 newspaper supplement pages each week. Of the 21 newspapers carrying the magazine *This Week*, 12 receive their sections from this plant, making a total of about 3,000,000 copies weekly. In addition to *This Week*, Alco of Chicago supplies the rotogravure printing for the Sunday or week-end supplements of eight newspapers: Pittsburgh *Press*, St. Louis *Globe-Democrat*, Indianapolis *Star*, Milwaukee *Journal*, Des Moines *Register-Tribune*, Minneapolis *Journal*, Cincinnati *Enquirer* and Chicago *Daily News*, which totals around 2,000,000 each week. The presses in this plant are capable of producing at maximum speed 50,000 sixteen-page magazine sections per hour. The "cruising speed," or average, is about 40,000 per hour.

The New York *News* prints approximately 3,000,000 four-color Sunday edition rotogravure tabloids on Goss Speedry Presses.

Four-color magazine printing is done on 14 Goss Speedry Gravure units at the Crowell Publishing Co.

WHERE IS THE LOGIC . . . in curving a dry-mat, then flattening it out again to make the final cut in length for clip to clip or gauge to gauge in casting units?



Patent Applied For

STAHI BRINGS TO YOU . . . a nominally priced, well constructed **Curved Mat Shear . . . The Stahi FINALTRIM.** With this unit, you may be assured that all mats are trimmed in the **Curved Formation** just as they fit the radius of the **Casting Units**—whether heavy or light packed, they will be the exact length—each and every mat. **The complete story for the asking.**

STAHI NEWSPAPER SUPPLY CO., INC.

1020 Crocker St. **417 Oregonian Bldg.**

Los Angeles, Calif. **Portland, Oregon**

Bingham Notes

Carl G. Bingham, president of Sam'l Bingham's Son Mfg. Co., Chicago, manufacturers of printers' rollers, has recently returned from an inspection tour of the Bingham plants at St. Louis, Oklahoma City, Dallas and Houston. The object of Mr. Bingham's swing through this section was to observe at first hand the modern machinery and improved production methods which have been installed recently in all the Bingham plants.

Messrs. Bingham, McShane, Weatherby, Strom and Schaefer, executives of the Sam'l Bingham's Son Mfg. Co., represented that firm at the annual meeting of the National Association of Printers' Roller Manufacturers, held at the Commodore Hotel, New York, on February 10-11.

Making Double-Taper Cut-Off Rules

NOT infrequently the layout for a printing piece requires double-taper cut-off rules, or the advertiser desires that the running-heads and headbands be composed of tapered rules of the style illustrated in Fig. 1. Rules answering this description may be purchased readymade from type supply houses in standard lengths. However, both standard and unusual sizes may be made in any composing-room equipped with a saw by performing these simple operations:

RUNNING HEADS

Fig. 1

1. Select composing-machine rule with a face as wide as the widest part of the tapered rule desired. Saw these to the correct overall length. (The rules exhibited in Fig. 1 were full-faced 6-point. The printing faces of the rules were tapered from the center and toward the extreme ends which terminate in face of approximately two points.)
2. Lay one of the rules flat-wise upon the saw table, face towards the saw blade, and run the end-gauge up to a position such as would cause the saw to take a 4-point cut.
3. Place two 2-point spaces (12-pt. body) beneath the rule, Fig. 2, and lower the saw table until the topmost teeth of the saw blade barely scratch the body of the rule. (Make this test by pulling the saw belt by hand, if the depth gauge is out of adjustment.)
4. Remove one of the 2-point spaces and place the other in the center, lengthwise, of the rule. See Fig. 3.
5. Use a piece of wooden furniture of approximately the same length as the rule to hold the rule in place while sawing and to trip the rule at the proper time.
6. Tip the forward end of the rule downwardly.
7. Apply power and move the table slide forward until the saw has passed half the length of the rule or more.
8. Return the slide to normal position. Tip the near end down and again pass the work over the saw.
9. Turn the rule over and work the reverse side as described in operations Nos. 6 to 8.

2-pt. Space 2-pt. Space

Fig. 2—Two 2-point spaces beneath the ends of the slug convert it into a depth gauge.

2-pt. Space

Fig. 3—A 2-point space centered beneath the slug serves as a fulcrum upon which to tip the slug in order to trim the face of the rule to tapered shape.

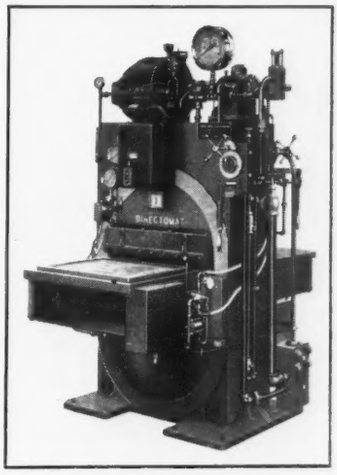
The foregoing operations will produce work having a somewhat rounded hump or back. This style of tapering appears to better advantage on long rules—30

FLEX
DRY MATS

FLEX Dry mats have what is needed—in addition to the skill of the Stereotyper—to insure good molding and good plates. Specifically, FLEX dry mats have the right surface and body structure to take and hold detail and depth through the scorching and casting operations. That is why FLEX dry mats reproduce halftone and Ben Day work so beautifully. • Samples of FLEX dry mats will be sent to you, without charge or obligation, at your request.

FLEXIDEAL DRY MAT COMPANY • 21 WEST STREET • NEW YORK

Newspaper Printing MUST IMPROVE



DIRECTOMAT
Matrix Press
for cold and hot moulding
(dry and wet mats)

Today's better-than-average quality of newspaper printing is still "not good enough" for large portions of national advertising that now gravitates to and stays with magazines and radio. Neither does it as yet completely satisfy the readers who may not be typographic experts, but who know what they like. And they show their appreciation of good printing in increased circulation.

It is an established fact that the DIRECTOMAT Matrix Press—more than any other single factor—helps to provide that printing quality so appreciated by advertisers and readers. It positively produces sharper and more uniform type matter, more detail and contrast in the halftones, and denser solids than the roller method.

Users state that standing want ads, when moulded on a DIRECTOMAT, can be used *three times longer* than when moulded on a roller. In other words, the DIRECTOMAT *saves two-thirds* of the cost of resetting of standing matter.

Gradually but surely direct pressure commercial mats produced on 24 DIRECTOMAT Matrix Presses in all parts of the United States are driving roller moulded dry mats and wet mats off the market. Direct pressure baked mats are also supplanting, to an ever-increasing extent, electrotype ad plates which cost more and, under repeated moulding, stretch and deteriorate more than good stereotype shell plates.

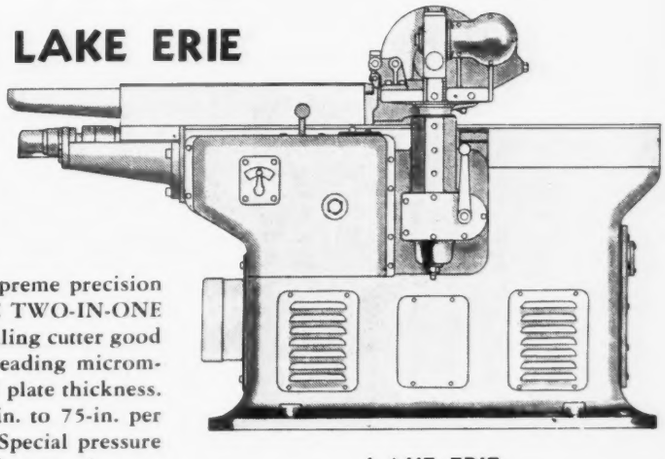
Unfortunately, 95% of America's newspapers are not getting the full benefit of these superior mats, because they are not properly equipped to shave their flat stereotype plates and bases with the accuracy necessary for high-class newspaper printing. To meet this need we now take pride in

ANNOUNCING THE LAKE ERIE TWO-IN-ONE Milling Machine

For Stereotypes, Electrotypes, and Stereo Metal Bases

The LAKE ERIE TWO-IN-ONE combines the functions of the roughing machine and the shaving machine. It mills stereotypes *in one operation* to the exact predetermined thickness.

Built with supreme precision to produce a finished plate of supreme precision and designed for high production at low cost, the LAKE ERIE TWO-IN-ONE sets an entirely new standard of performance. Special rotary milling cutter good for about a year's service before requiring regrinding. Direct-reading micrometer height adjustment for cutter to obtain rapidly the desired plate thickness. Hydraulic feed for table movement, infinitely variable from 5-in. to 75-in. per minute, to suit varying depths of cut. Rapid return of table. Special pressure rollers chuck the plates firmly to the bed, assuring accuracy and preventing any buckling or stretching of the plates. Screw conveyor carries chips into a container beside the machine. Maximum plate size . . . 18½-in. x 25-in. Plate thicknesses . . . from .063-in. to type-high. Cutting range . . . from .0005-in. to .090-in. Accuracy tolerance . . . within .001-in.



LAKE ERIE
TWO-IN-ONE Milling Machine
for Stereotypes, Electrotypes and
Stereo Metal Bases

Lake Erie Stereotype Equipment Company

Division of Lake Erie Engineering Corporation, Buffalo, N. Y. Kenmore Station, Buffalo, N. Y.

to 40 ems pica. Some types of narrow-measure work may demand sharper apexes than the foregoing operations will produce. For a sharper apex, modify the foregoing procedures as follows:

1. Ascertain the centers of the rules lengthwise and mark them off on the face of the rule with a sharp lead pencil.
2. For the first cut, place the forward edge (edge farthest from the operator) of the 2-point space up to the penciled line.
3. Carefully tilt the forward end of the rule, hold it securely in place with the piece of wood furniture, and saw the front half of the rule.
4. Return the saw carriage to normal position.
5. Shift the 2-point space so that the edge nearest the operator is up to the penciled line.
6. Tilt the rear half of the rule down, hold securely in place, and saw the back half.

Caution: It is important that the 2-point space be kept in place at all times. Any shifting of the space should be remedied before sawing takes place.

When these operations are followed carefully, a sharp effect is produced.

Expertness is readily acquired and material may be produced rapidly by this simple process. By removing the work-holding vise, rules of any reasonable length may be produced.

G-E Employees Establish Safety Record In 1935

Not one fatal accident from an occupational cause was suffered by a G-E employe during 1935, according to a report recently compiled by the General Electric Company's general safety committee. The report also shows that apparently safety consciousness, instilled at work, carries on after the whistle blows, for among the company's employees there were the fewest number of non-occupational accidental deaths for any year on record. Only 16 such deaths occurred during 1935—seven less than during the previous year. Automobile accidents claimed the largest number of victims with seven deaths. Of the other nine deaths in this class last year, falls were responsible for four, drowning and poisoning for two each, and burns for one.

Small Cap Composition Suggestion

By GEORGE R. STILES*

In the November issue of *Printing* EQUIPMENT *Engineer* appeared a keyboard diagram which illustrated a plan for rapid small cap composition. The plan, however, failed to help any with an improved method for handling small caps "x" and "z" which have always run pi on line-composing machines.

In our plant, the setting of small caps is an every-day occurrence. Because our operators have had to reach into the pi stacker thirty or forty times daily for small caps "x" and "z" pi mats, much time has been lost. We finally hit upon the idea of utilizing channel 27 (fi) for the small cap "x" and channel 29 (ff) for the small cap "z". Production immediately showed a considerable increase.

It is a simple matter to blank out the pi teeth with a fine four-square file in order to obtain the proper tooth combination to cause the matrices to drop in the proper magazine channel.

*Foreman Composing Room, Standard Printing Company, San Antonio, Texas.

EDES PHOTO-ENGRAVING

EDES SUPERFINE QUALITY ZINC

ZINC

THE STANDARD FOR MORE THAN 80 YEARS

UNIFORM TEXTURE STANDS UP UNDER MATRIX PRESSURE

THE EDES MANUFACTURING CO., PLYMOUTH, MASS.

Stocks Carried by the Following Representatives

John H. Heimbuecher Metals Co., 514 No. Third St., St. Louis, Mo.
Gazzolo Drug and Chemical Co., 119 So. Green St., Chicago, Ill.
E. H. Walker Supply Co., Printcraft Bldg., Washington, D. C.
Selby Mohr, 883 Mission St., San Francisco, Cal.
C. S. Illingworth, 49 Springville Avenue, Buffalo, New York
Thompson-Hayward Chemical Co., 2228 Blake St., Denver, Colo.
Thompson-Hayward Chemical Co., 909-2nd St. So., Minneapolis, Minn.
Metzger Photo Supply Co., 1091 So. Main St., Akron, Ohio
G. C. Dom Supply Co., 125 East Pearl St., Cincinnati, Ohio

WESTERN NEWSPAPER UNION GOES PREMIER

After making their own tests on a **Premier Rotary Shaver,** The Western Newspaper Union is now operating a **Premier** in one of their plants, and have placed orders for **Two Additional Machines.** All this is substantial evidence of the manifold advantages of **The Premier Rotary Shaver,** in saving of production time and accuracy of product, and the wide range of heights that can be shaved on this revolutionary new machine. **Premier** adheres to the **Highest Standards.**

STAHI NEWSPAPER SUPPLY COMPANY, INC.

1020 Crocker Street
Los Angeles, California

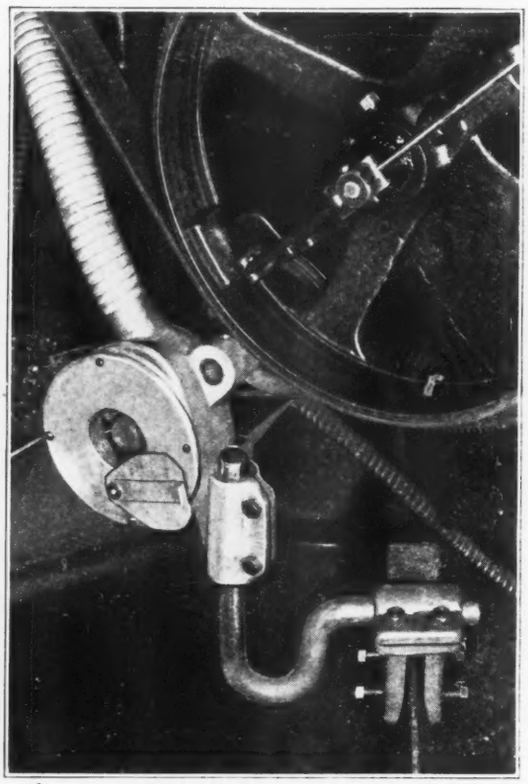
417 Oregonian Building
Portland, Oregon

ANNOUNCING

AIR COOLING

for

LINOTYPE and INTERTYPE MOLDS



Have you ever counted the cost of faulty slug production . . . or of lowered machine output? A check-up will astonish you!

Particularly, when ten point or upward is cast, **Mold Cooling** is essential.

The Lino Air Flow Is Now Available To You At a Low Cost

NO EXTRA MOTOR—EASILY ATTACHED—
NOISELESS — NO MAINTENANCE COST.

Send for Descriptive Circular

BELTS

Ace round and flat belts are the original cord-rubber belts—and still the best. They are **only ones** that carry an unconditional warranty of at least a year's service.

TRADE ★ MARK

Linotype Parts Corporation

NEW YORK
203 Lafayette Street

KANSAS CITY
314 West 10th Street

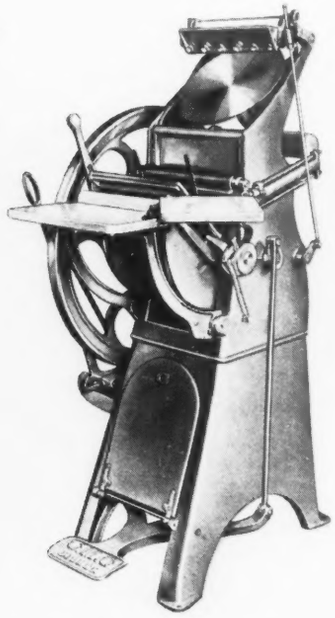
CHICAGO: 318 West Randolph Street
LOS ANGELES: 1520 Georgia Street

Equipment

(Continued from Page 16)

C.M.C. Jobber

A job printing press, 7-in. by 11-in. chase capacity has been announced by the Craftsman Machinery Co. The press is equipped with three form rollers, impression throw-off, hand brake and foot treadle. Electric motive power may be applied to operate the press. Additional equipment is an oscillating vibrator.



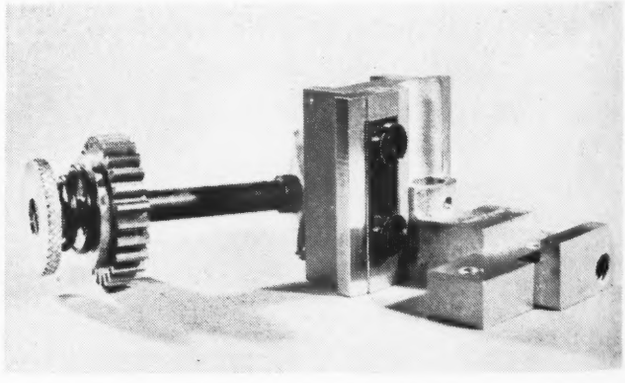
View of New C.M.C. Job Printing Press.

It is said 2500 impressions per hour may be secured from the press while operating under foot power and considerably more when operated by electric motor.

Further particulars may be obtained from Craftsman Machinery Co. or *Printing* EQUIPMENT *Engineer* will be glad to forward your inquiry.

Star Friction and Long Finger Block

The Linotype Parts Corporation has announced the development of an adjustable assembler star wheel friction device and what is termed an "Everlasting" Delivery



At left is shown a new Assembler Star Wheel Adjustable Friction Clutch for application to Linotype machines. At right is shown a Delivery Slide Long Finger Block which has been adapted to carry a renewable lower rail section. By renewing the rail section the long finger block will be restored to an upright position.

Slide Long Finger Block, both of which are intended for application to Linotype machines.

The Assembler Star Friction is so constructed that by turning a knurled brass disk the tension of the star wheel friction spring may be regulated to secure the right amount of tension to throw heavy matrices to an upright position into the assembling elevator and yet at the same time prevent excess tension which would cause matrices to bound out of the assembler during assemblage of a matrix line.

The Delivery Slide Long Finger Block has been fitted with a shoe or rail section, held in place by two substantial screws and a steel plate so that when the lower rail section of the block wears and causes the block to sag, a new rail section obtainable from the Linotype Parts Corporation, may be applied with little difficulty, so as to bring the long finger in vertical alignment again. In other words, renewing the lower rail section is the equivalent of renewing the entire block, since the point of principal wear is in the lower rail.

Premier Rotary Shaver Sales

The Western Newspaper Union purchased a Premier Rotary Shaver in November of 1935, which was placed in its Portland, Ore., plant.

After operating the machine for a period of 60 days, under various tests, two additional machines were ordered, one to be installed in the Chicago plant and one for the New York plant. An option on two additional machines now in process of construction has been taken.

Centaur and Arrighi

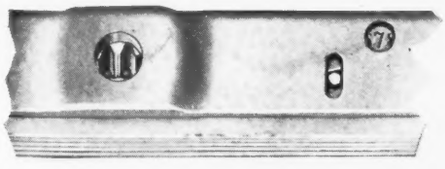
It has been announced by the Continental Typefounders Association that it now has available the Centaur Type and its accompanying italic the Arrighi of Frederic Warde in sizes ranging from 10 pt. through and including 36 pt. Centaur was designed by Bruce Rogers. The Metropolitan Museum of Art in New York had the exclusive use of the capital letters for many years. More recently Centaur was used in the composition of the Oxford Bible designed by Bruce Rogers and printed at the Oxford University Press in England.

THE CENTAUR
type is now available
FOR HAND COMPOSITION WITH
the charming Arrighi as its companion italic

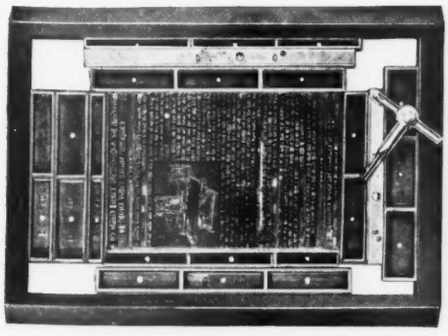
"Pat" Dana Promoted

Alonzo Patrick Dana, but better known as "Pat" Dana to many people in the industry, has been appointed office manager of the San Francisco agency of the Mergenthaler Linotype Company by Harry W. Porte, agency manager. The appointment is in recognition of long and faithful service.

STYLE H
PATENT NO. 1,948,821



Automatic indicator figure dial shows exact register position—permits absolute accuracy when unlocking and relocking form.



Demonstrating how two Challenge Hi-Speed Quoins can be used to lock up almost any form. Reduces lock-up time.

CHALLENGE...
HI-SPEED QUOINS
answers today's demand for SPEED and ACCURACY

★ Self-locking—operated with only one turn of the key—Challenge Hi-Speed Quoins facilitate make-up, provide for easier handling of forms, and save 70% to 80% on lock-up.

Hi-Speed Quoins are always parallel—lock true their full length—insure perfect register. Expansion is direct and slippage is impossible. Two Hi-Speed Quoins will lock up many jobs that ordinarily require five to eight quoins. Higher first cost is quickly justified by substantial savings in the handling of every form on which they are used.

Equip your plant with Challenge Hi-Speed Quoins at once. Their greater speed and accuracy will cut costs and boost profits. See your dealer or write for data.

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GRAND HAVEN, MICHIGAN
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Rubber

Plate Vulcanizer Progress—Dimensional Accuracy and Heat Control

By H. H. Heinrich*

EVEN a brief review of the accomplishments of the rubber industry of the United States during the last thirty years causes one to encounter so many examples of progressive steps of such outstanding merit as to cause amazement.

Science and Engineering

Almost wothout exception these developments have come about gradually and in an evolutionary fashion. While the progress per week could not be measured, that per year became impressive, and that of a decade has been enormous. Much of the change has been the result of scientific findings and much of it of engineering research. In fact it can be truly stated that the commercial value of the work of either would perhaps never have become important without the complementary accomplishment of the other.

Rubber Printing Plates

In this exact fashion a relatively new application of rubber promises to become an industry of substantial size and of universal importance. Reference is being made to the manufacture and use of rubber printing plates. Rubber printing plates have been known for more than thirty years, having at times taken limited commercial importance followed by almost complete disfavor due to various causes; mainly among which were improper curing equipment for the exacting dimensional requirements, and rubber stocks inadequately fitted to resist the disintegrating effects of ink vehicles.

By various means, for example, the use of synthetic rubbers such as "Du Prene"[1] and Thiokol, chemists have formulated rubber compounds that have quite effectively removed the latter difficulty. This accomplishment has been concurrently progressing with another, a mechanical one, with which the author has been intimately connected and that has proved to be the answer to the first-mentioned difficulty which has stood in the way of rubber printing plate acceptance.

Precision Platen Press

Vulcanizers heretofore used for printing plate experiments were those designed for rubber stamps or for other molded rubber goods where very accurate dimensions were either unimportant or the importance was not sufficiently recognized. In any event accuracy was not obtained, and the rubber plates so made were unsuccessful in that they would not produce a delicately screened halftone of uniform printing effect, or could multicolor work be done with perfect registration because of the resilient flow of thick regions and the deformation of thin ones.

A few years ago the engineers of H. H. Heinrich, Inc., undertook the study here and abroad of printing plate mechanical requirements and the development, then, of a vulcanizer to suit the very exacting need.

In this vulcanizer heavy slabs of high quality steel at either end served the varied purposes of frame, lower platen guide, and housing for the automatic hydraulic

*President of H. H. Heinrich, Inc., 200 Varick St., New York, N. Y. Abstract of article appearing in *India Rubber World*.
[1]Trade mark registered.

pump and oil reservoir that supplies the two rams for activating the lower platen to exert any desired pressure from the so-called "kiss touch" to 72 tons, instantaneously if desired. The platens operate with an accuracy of 0.001 in. by virtue of adjustable V-guides and synchronized rams.

ELECTRICALLY HEATED

Plugging into the electric socket not only furnishes the means of activating this press, but also affords the source of heat. Hermetically sealed, thoroughly packed, and closely spaced heating units are fixed in a platen surface plate of carefully annealed carbon steel with dead air designing that causes localization rather than dissipation of heat, thus assuring absolute uniformity.

NEAT—CLEAN—NOISELESS

The front and back housing closures, the integral work shelf, and the time, temperature, and hydraulic controls all combine to produce a sensitive, neat, clean, and noiseless mechanism that has a sturdiness appropriate to the factory, yet a quiet dignity suiting it to the most immaculate biological laboratory or sanitary manufacturing department.

OTHER RUBBER GOODS

The value of this vulcanizer has been recognized for the manufacturer of precise rubber products other than printing plates. It is peculiarly suited to delicate biological plungers and stoppers, X-ray envelopes, and numerous other precision molded products where cleanliness and low dimensional tolerances and curing delicacy are important considerations.

It is conceivable that this development may usher in an era whereby the vulcanizer will be transported from place to place in the factory, going to the work rather than continuously transporting increments of production to the conventional press room.

Ayer Contest

All daily English language newspapers published in the United States were again invited to participate in the Sixth Annual Exhibition of Newspaper Typography to be held in the Ayer Galleries here under the auspices of N. W. Ayer & Son, Inc., advertising agency. The exhibition will be confined to issues of Wednesday, March 4.

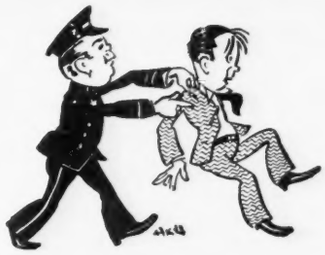
Papers will be judged for excellence in typography, make-up and press work and certificates of merit will be awarded in each of three circulation divisions—under 10,000, from 10,000 to 50,000, and over 50,000.

In addition all papers entered will compete for the Francis Wayland Ayer cup which is to become the permanent possession of the paper winning it three times. The cup is now held by the New York *Times* to which it has been awarded twice. It has also been received twice by the New York *Herald-Tribune* and once by the Hartford *Courant*.

The judges have been announced as follows: Sir Willmott Lewis, Washington correspondent The London *Times;* Kenneth E. Olson, chairman Department of Journalism of Rutgers University, and John Clyde Oswald, printer and author.

The annual sales convention of Sam'l Bingham's Son Mfg. Co. was held in Chicago at the Medinah Athletic Club and at the Bingham plant on Wednesday and Thursday, January 22 and 23. Luncheon and dinner was served on both days. The meeting included numerous sales conferences, an inspection tour of the Bingham plant and demonstrations of the modern machinery just installed and the new production methods put into effect.

BURGESS CHROME MATS



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The aim of the Burgess Cellulose Organization is to reduce troubles and costs in stereotype departments . . . and to make good results more certain.

This aim has led not only to improvements in mats through the laboratory . . .

. . . but it has built a unique selling organization. Every Burgess Man is experienced in stereotype troubles and worries and costs. He has the experience of the Burgess Organizations at his fingertips. He wants to help you cut costs . . . end trouble . . . get better results. Call him in today.

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BURGESS CHROME MATS

Patent Papers:

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Patents

For Drying Freshly Printed Sheets And Plate Fastening Means

JANUARY-FEBRUARY

Composing Machines:

2,028,736. VISE FOR SLUG CASTING MACHINES. Einar G. Klingberg, Long Island City, N. Y., assignor to Intertype Corporation, Brooklyn, N. Y., a corporation of New York. Application April 29, 1935, Serial No. 18,911. 19 Claims. (Cl. 199—50.)

1. In a slug casting machine having a vise, a vise jaw support mounted thereon, and means for mounting a vise jaw on the support at different levels.

2,028,743. TYPOGRAPHICAL MACHINE. Norbert Fucik, Chicago, Ill. Application November 24, 1933, Serial No. 699,498. 8 Claims. (Cl. 199—30.)

1. In a typographical machine, the combination of a slide bracket, a slide bar reciprocally mounted on the bracket, a slide clamp mounted on the slide bar, a stop carried by the bracket located in the path of the clamp, and means whereby the stop may be moved out of the path of the clamp for extending the line.

2,028,978. MATRIX AND METHOD OF MANUFACTURING THE SAME. Arthur H. Hedly, Chicago, Ill., assignor to Ludlow Typograph Company, Chicago, Ill., a corporation of Illinois. Application November 5, 1934, Serial No. 751,630. 15 Claims. Cl. 101—401.2.)

1. The method of forming matrices which consists in providing a metal matrix body the portion thereof in which the matrix cavity is to be formed comprising a relatively thin web section forming a portion only of the body, backing the web-section with material harder than that forming the body, and forcing a matrix-forming punch against the portion to form the matrix cavity therein.

2,029,529. TYPOGRAPHIC MOLD. Mauritz C. Indahl, Rydal, Pa., assignor to Lanston Monotype Machine Company, Philadelphia, Pa., a corporation of Virginia. Application August 9, 1934, Serial No. 739,066. 9 Claims. (Cl. 199—92.)

1. A typographic mold comprising type blocks, each having a cast forming surface and each provided with a lateral positioning lug extending parallel to the cast forming surface, and a point block having positioning surfaces adapted to contact with the lugs to position, and maintain the cast forming surfaces of the type blocks at definite point size positions,

2,029,952. SLUG CASTING MACHINE. Anthony J. Stouges, Queens Village, N. Y. assignor to Mergenthaler Linotype Company, a corporation of New York. Original application June 19, 1931, Serial No. 545,398. Divided and this application January 31, 1933, Serial No. 654,558. In Great Britain January 25, 1932. 10 Claims. (Cl. 199—50.)

1. In a slug casting machine, adapted to be equipped with a non-expansible composed matrix line of a given length, the combination of a supporting frame, right and left hand clamping jaws mounted for horizontal movement in the frame, a transporter for positioning the matrix line between the jaws, positive means for moving the left hand jaw toward the opposing jaw from a normal to a definite predetermined position, the means having a range of movement sufficient to reduce the distance between the jaws to less than the length of the matrix line, a line-clamping spring arranged behind the right-hand jaw to permit it to yield under the thrust of the left hand jaw through the composed matrix line, and a fixed stop to limit the yielding movement of the right-hand jaw.

2,029,976. PUMP STOP MECHANISM FOR TYPOGRAPHICAL LINE CASTING MACHINES. Paul Wunsch, Leipzig, Germany, assignor to Mergenthaler Linotype Company, Brooklyn, N. Y., a company of New York. Application May 5, 1934, Serial No. 724,042. In Germany May 19, 1933. 11 Claims. (Cl. 199—53.)

1. In a typographical line-casting machine having a metal-pot mouthpiece movable into and out of contact with the mold, the combination with a pump stop lever and means actuated during justification of a composed matrix line adapted to control the lever to release the pump stop, of secondary control means for the lever actuated by the mold contacting movement of the metal-pot mouthpiece to release the pump stop.

2,030,036. WIPER FOR SLUG TRIMMING KNIVES. Arthur G. Sperry, Hollis, N. Y., assignor to Intertype Corporation, Brooklyn, N. Y., a corporation of New York. Application May 24, 1935, Serial No. 23,304. 22 Claims. (Cl. 199—62.)

1. In a line-casting machine having a pair of slug trimming knives, wipers individual to the knives and each mounted for movement across the plane of the cutting edge of the respective knife, and power driven means for moving the wipers.

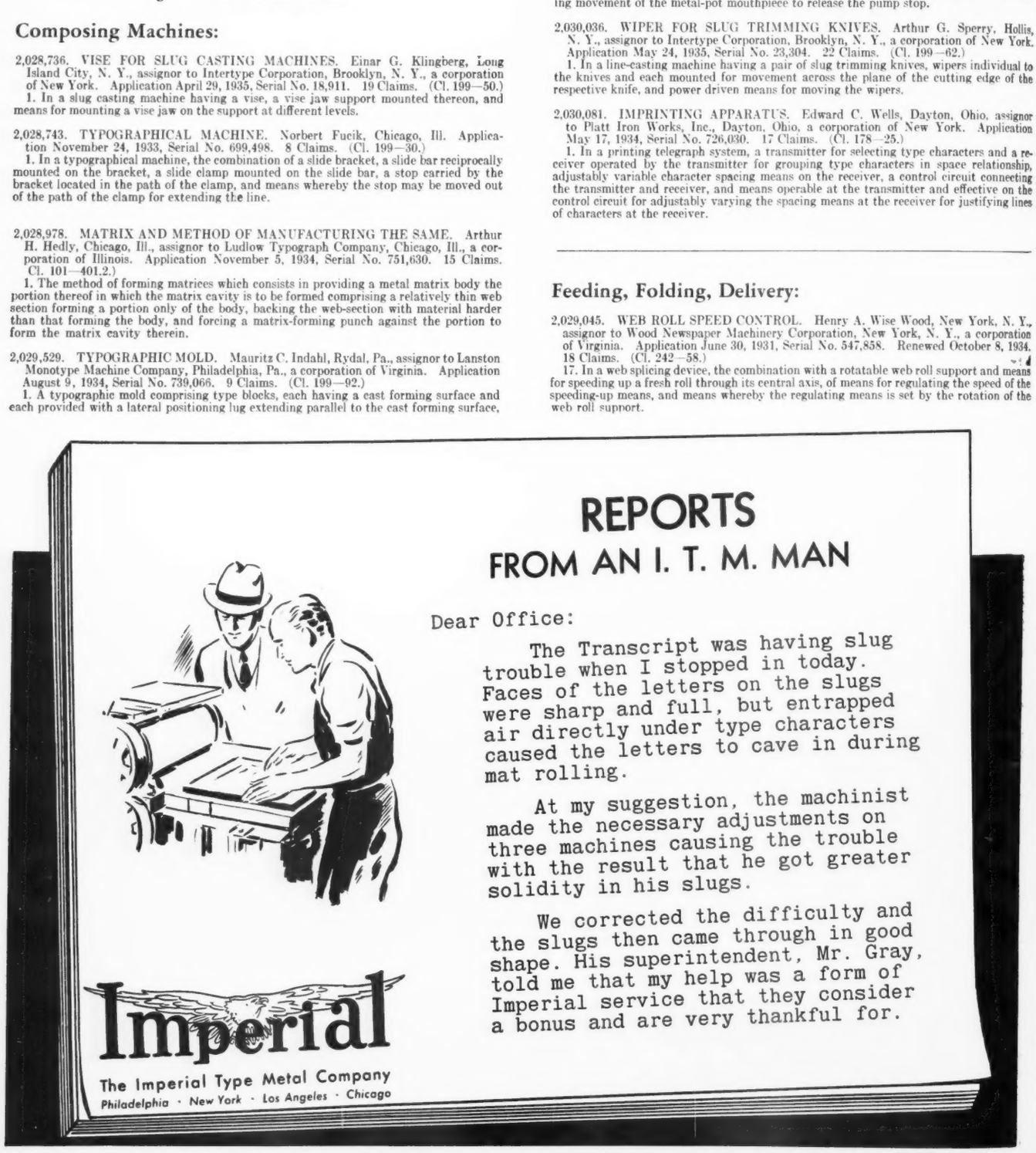
2,030,081. IMPRINTING APPARATUS. Edward C. Wells, Dayton, Ohio, assignor to Platt Iron Works, Inc., Dayton, Ohio, a corporation of New York. Application May 17, 1934, Serial No. 726,030. 17 Claims. (Cl. 178—25.)

1. In a printing telegraph system, a transmitter for selecting type characters and a receiver operated by the transmitter for grouping type characters in space relationship, adjustably variable character spacing means on the receiver, a control circuit connecting the transmitter and receiver, and means operable at the transmitter and effective on the control circuit for adjustably varying the spacing means at the receiver for justifying lines of characters at the receiver.

Feeding, Folding, Delivery:

2,029,045. WEB ROLL SPEED CONTROL. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application June 30, 1931, Serial No. 547,858. Renewed October 8, 1934. 18 Claims. (Cl. 242—58.)

17. In a web splicing device, the combination with a rotatable web roll support and means for speeding up a fresh roll through its central axis, of means for regulating the speed of the speeding-up means, and means whereby the regulating means is set by the rotation of the web roll support.


REPORTS
FROM AN I. T. M. MAN
Dear Office:
The Transcript was having slug trouble when I stopped in today. Faces of the letters on the slugs were sharp and full, but entrapped air directly under type characters caused the letters to cave in during mat rolling.
At my suggestion, the machinist made the necessary adjustments on three machines causing the trouble with the result that he got greater solidity in his slugs.
We corrected the difficulty and the slugs then came through in good shape. His superintendent, Mr. Gray, told me that my help was a form of Imperial service that they consider a bonus and are very thankful for.
Imperial
The Imperial Type Metal Company
Philadelphia · New York · Los Angeles · Chicago

2,029,046. WEB SPLICING DEVICE. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application November 12, 1932, Serial No. 642,352. Renewed December 4, 1934. 10 Claims. (Cl. 242—58.)

1. In a web splicing mechanism, the combination with means for rotating the fresh web roll, and means controlled by the diameter of the fresh roll for varying the speed of the rotating means to bring the surface speed of the fresh roll substantially to web speed at the time of splicing, of means for reducing the speed of the fresh roll driving means immediately after the fresh roll is spliced to the running web for the purpose of producing tension on the web.

2,029,919. WEB REGISTERING DEVICE. Frederic B. Fuller, Springfield, Mass., assignor to Package Machinery Company, Springfield, Mass., a corporation of Massachusetts. Application June 16, 1932, Serial No. 617,550. 28 Claims. (Cl. 271—2.6.)

1. In a web feeding device of the type in which the rate of feed of the web is controlled by the phase relation or position of indicia on the web relative to a detecting device, that construction of detecting device which comprises means movable at a speed different from the surface speed of the web and in the line of the web's motion, and mechanism responsive to variations in the phase in the cycle of the machine at which coincidence between the means and the indicia on the web occurs for varying the rate of feed of the web.

3. In a web feeding device of the type in which the amount of feed of the web is controlled by the phase relation or position of indicia on the web relative to a detecting device, that construction of detecting device comprising a light source, a photo-electric cell, and means for causing relative movement between the light source and the photo-electric cell along the path line of the web-borne indicia.

Miscellaneous:

2,028,292. METHOD OF MAKING TITANIUM DIOXIDE. Reginald Hill Monk and Archibald Stewart Ross, Montreal, Quebec, Canada, assignors to American Zinc, Lead & Smelting Company, St. Louis, Mo., a corporation of Maine. No Drawing. Application July 12, 1934, Serial No. 734,870. 38 Claims. (Cl. 23—202.)

1. The method of providing titanium dioxide which consists in diluting with water a solution of a hydrolyzable salt of titanium in the presence of a protective colloid.

38. In a method of producing titanium dioxide the step which comprises adding two volumes of titanium sulphate solution containing 100 to 200 grams of titanium dioxide per liter and two volumes of a solution containing approximately 0.75% of a complex polysaccharide to one volume of water under agitation, the two solutions being added at a rate to constantly maintain an excess of the polysaccharide, and then converting the polysaccharide into sugar by boiling.

2,028,449. TYPE FORM TIE. William F. Heinrich, North Bergen, N. J. Application August 27, 1934, Serial No. 741,595. 7 Claims. (Cl. 101—404.)

1. A type form tie, comprising a right angle member adapted to engage on one corner of the form, a string for engaging around the form, means for attaching the ends of the string on the arms of the angle member, whereby one end of the string may first be attached on one arm, then the string extended around the form, and finally the other end of the string attached upon the other arm, and flanges projecting at right angles from the bottoms of the arms for preventing the string from slipping beneath the type form.

2,028,965. APPARATUS FOR REGISTERING AND ALIGNING PRINTERS FORMS, PLATES, AND THE LIKE. Clarence A. Betts, Kansas City, Mo. Application February 16, 1934, Serial No. 711,529. 3 Claims. (Cl. 33—184.5.)

1. In an apparatus, a support for removably retaining printing forms, rails on the support enclosing the forms and having graduations, means for aligning the forms in relation to the rail graduations, means eccentrically connected to one of the rails and having graduations for indicating the position of the forms relative to the side rails, and a transparent shatter-proof panel hingedly mounted on the support for receiving an imprint from the forms, whereby succeeding forms may be placed and aligned in the support in exact relation to each other.

2,029,726. CONTROLLER FOR PRINTING PRESSES. Eric H. Laabs, Milwaukee Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware. Application June 30, 1933, Serial No. 678,440. 6 Claims. (Cl. 164—43.)

1. In a printing press controller, in combination, stopping means, web severing means, each of the means having a control winding, a supply circuit for the windings including the latter in a series relation and a control switch for the circuit operable automatically upon web breakage.

2,030,304. PRINTING. Theodore E. Knowlton, New York, N. Y. Application July 20, 1931, Serial No. 551,918. 5 Claims. (Cl. 101—416.)

3. A method of drying a freshly printed sheet comprising providing a cylinder having a perforated periphery, facing the cylinder with a foraminated layer having an irregular uneven surface, circumvolving the freshly printed sheet over the cylinder with the freshly printed side in contact with the foraminated layers, and ejecting a drying means through the perforated cylinder against the freshly printed sheet.

2,030,351. METHOD OF APPLYING PROTECTIVE COLORING IN THE PRINTING OF DOCUMENTS REPRESENTING VALUE. Sydney George Clifford, London, England, assignor to Waterlow & Sons Limited, London, England, a British company. Application October 11, 1933, Serial No. 693,179. In Great Britain October 31, 1932. 8 Claims. (Cl. 101—211.)

4. In the process of printing a multicolor background design upon commercial paper, the method of producing a background design in continuously variegated colors which comprises printing each of a plurality of partial designs in a set of bands of distinctive colors separated by merging bands of the adjacent distinctive colors, the set of color bands of one partial design extending at a substantial angle to another set of color bands.

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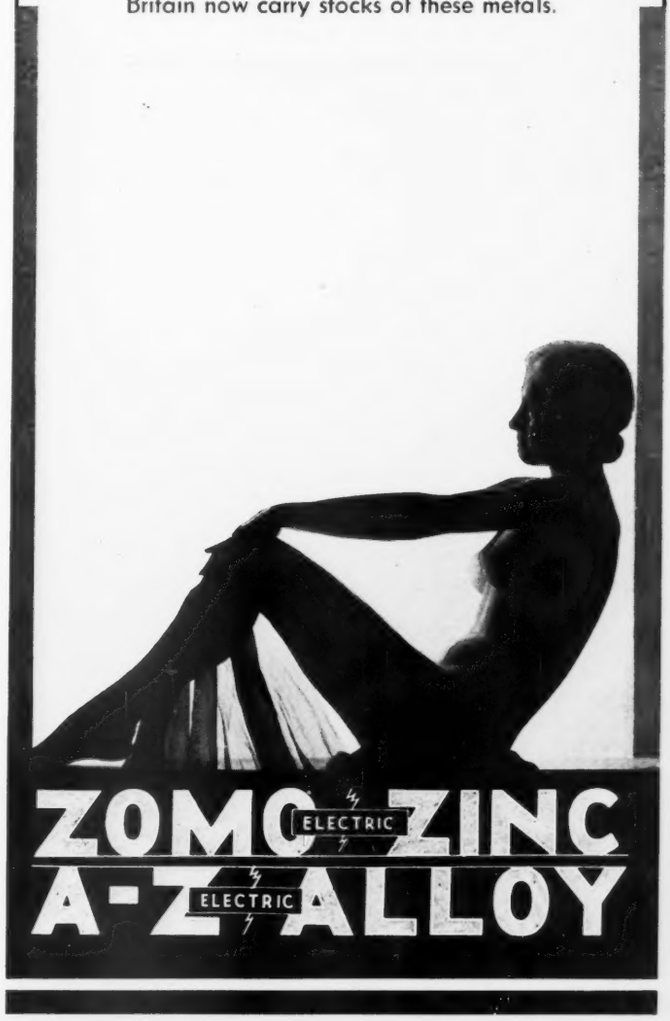
ATTENTION value of line or halftone illustration depends largely on the faithfulness of reproduction. From steam shovels to step-ins, photo-engravings today must be flawless duplicates of the original copy. A-Z Alloy and Zomo Electric Zinc enable the modern engraver to meet present day high standards and close competition. Both are metals of quick, clean etching quality, melted and cast in the electric induction furnace for *absolute uniformity.* Specify A-Z Alloy for all direct printing and heavy mat work, and Zomo Electric Zinc for all commercial work. Look for the trade mark on the back of every sheet. Leading metal distributors in the principal cities of the United States, Canada and Great Britain now carry stocks of these metals.



ZOMO ELECTRIC ZINC
A-Z ELECTRIC ALLOY

LUDLOW for Speed and Cost

For the past fifteen years the Commercial-News has used the Ludlow system for advertising display and head composition.

During that period we have tried out other systems, but have had to go back to the Ludlow, for speed as well as from a cost standpoint.

The Ludlows in this plant are called upon to set all ad display copy, our streamer lines, and all headings over single-column width. Anyone responsible for getting to press on time can appreciate what this means in "peak-load" days.

Consequently Ludlows are clearly our choice.

JOHN A. COPE
Mechanical Superintendent
The Commercial-News
DANVILLE, ILLINOIS

Ludlow Typograph Co.

2032 Clybourn Avenue + + Chicago, Illinois

Set in members of the Ludlow Karnak family

Plate Making:

2,028,709. PRINTING PLATE. Hylton Swan, Upper Montclair, and Sigfried Higgins, Verona, N. J., assignors to Bakelite Corporation, New York, N. Y., a corporation of Delaware. Application May 26, 1934, Serial No. 727,722. 16 Claims. (Cl. 41—25.)
1. A printing plate comprising a facing of regenerated cellulose and a body of rubber.

2,028,710. PRINTING PLATE. Hylton Swan, Upper Montclair, and Sigfried Higgins, Verona, N. J., assignors to Bakelite Corporation, New York, N. Y., a corporation of Delaware. Application May 26, 1934, Serial No. 727,723. 21 Claims. (Cl. 41—25.)
1. A printing plate comprising a facing of cellulose acetate from substantially 0.001-in. to substantially 0.035-in. in thickness and a body of rubber.

2,028,711. PRINTING PLATE. Hylton Swan, Upper Montclair, and Sigfried Higgins, Verona, N. J., assignors to Bakelite Corporation, New York, N. Y., a corporation of Delaware. Application May 26, 1934, Serial No. 727,724. 14 Claims. (Cl. 41—25.)
1. A printing plate having a facing comprising cellulose acetate from substantially 0.001-in. to substantially 0.035-in. in thickness and body of resin.

2,028,712. PRINTING PLATE Hylton Swan, Upper Montclair, and Sigfried Higgins, Verona, N. J., assignors to Bakelite Corporation, New York, N. Y., a corporation of Delaware. Application May 26, 1934, Serial No. 727,725. 19 Claims. (Cl. 41—25.)
1. A printing plate comprising a facing of vinyl resin and a body of another material.

2,030,447. MULTICOLOR-SCREEN FOR USE WITH LENTICULATED FILMS. Edgar Gretener, Berlin-Siemensstadt, Germany, assignor to Opticolor Aktiengesellschaft, Glarus, Switzerland, a corporation of Switzerland. Application January 20, 1934, Serial No. 707,531. In Germany January 20, 1933. 1 Claim. (Cl. 88—16.4.)
A color filter for use with lenticulated films and high intensity lamps emitting light of approximately equal energy for all wave lengths of the spectrum, the filter comprising three zones extending generally parallel to the lenticulations on the films, the filter being circular and the zones being colored green, red, and blue, with the red zone extending substantially diametrically across the filter, and the green and blue zones being disposed generally parallel to the red zone and on opposite sides thereof.

Printing Presses:

2,029,565. ROTARY PRINTING PRESS. Sydney Thomas Cecil Hardy, Gladesville, Sydney, New South Wales, Australia, assignor to Sun Newspapers Limited, Sydney, New South Wales, Australia, a company of New South Wales. Application March 14, 1935, Serial No. 11,136. 7 Claims. (Cl. 101—378.)
1. Improvements in means for securing stereo plates on the cylinder of a rotary printing press, comprising a rod mounted longitudinally in the cylinder in parallelism with the axis of the cylinder, comprising two plate-securing dogs slidably mounted on the rod, a member positevely and releasably engageable with the rod in alternative fixed positions, means on the member for positively engaging one of the dogs to secure the same in selected and definite position on the rod, and a second member positively and releasably engageable with the rod in alternative fixed positions and acting as an abutment on the rod for the other of the dogs.

2,029,996. PRINTING MACHINE. Samuel Furman, Worchester, Mass., assignor to United States Envelope Company, Springfield, Mass., a corporation of Maine. Application March 30, 1932, Serial No. 601,945. 25 Claims. (Cl. 101—228.)
1. In a machine for printing spaced impressions on a continuous web by gravure printing, a gravure printing roll, a pressure roll to press the web against the printing roll, means for feeding a predetermined length of web between the rolls for each rotation of the print roll, the feeding means comprising a driving roll having the same surface speed as the printing roll, and a movable roll engaging the driving roll and pressing the web against the driving roll during a portion only of each rotation of the driving roll for advancing the web between the printing and pressure rolls at the same speed as the rolls, and means for spacing the surface of the pressure roll from the printing roll during a portion of each rotation of the printing roll while the movable roll is spaced from the driving roll to provide for a relative movement between the web and the surface of the printing roll.

2,030,173. PRINTING PRESS. William M. Kelly, Westfield, N. J., assignor to American Type Founders Company, Elizabeth, N. J., a corporation of New Jersey. Application July 7, 1933, Serial No. 679,429. 10 Claims. (Cl. 101—282.)
1. A bed motion for a printing press of the two-revolution type provided with a frame and a reciprocating bed thereon adapted to execute a forward printing stroke and a reverse idle stroke, including, in combination, a pair of gear segments of at least 240 deg. extent rotatively mounted adjacent each other on the frame, the axes of the segments being in the same horizontal plane, one segment being located next to the frame and the other one gear width therefrom, means for rotating the segments in opposite directions at the same constant angular velocity at the rate of two revolutions for each complete cycle of reciprocation of the bed, and means alternately driven by the segments and operatively connected with the bed for effecting reciprocation of the same at a uniform velocity for more than one-half of each stroke.

$3.35

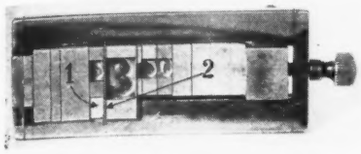
Specimen of superior $ mark and secondary figures cast with large price figure, using 1/8-in. and 1 1/4-in. Ludlow matrices, as is explained in this article.

Adapts Ludlow Stick for Superior Prices

Somehow or other, no matter how flexible printing equipment may be, there is always something needed which may be just a little beyond the provided-for adaptabilities of the equipment in use. Very often, the manufacturer of the equipment can't be expected to respond to all demands for broadening the range because so many of the demands are exceptional or purely local and there isn't enough demand to warrant the expenditure of time and energy in satisfying all of them.

However this may be, advertisers in the Cleveland *Press* want certain kinds of advertisement display prices

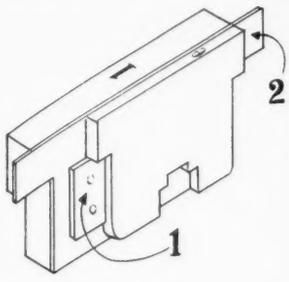
set up in such a way as to combine superior figures with large price quotations. Chief Machinist Al Krueger devised for Composing Room Superintendent John B. Hogan a simple device whereby it is possible to cast on the Ludlow machines in the *Press* composing room 24 or 30-pt. superior figures at either or both sides of 60 or 72-pt. price figures in a ⅞-in. matrix stick.



Photographic view of matrix line assembled with ⅞-in. and 1¼-in. matrices in an adapted ⅞-in. Ludlow Stick.

The main difficulty was to find some way to prevent ⅞ in. matrices (which carry 24 and 30-pt. figures) pulling out after the cast when combined with 1¼ in. matrices (which carry 60 and 72-pt. figures) in the same line.

In the photograph will be seen a conventional ⅞ in. Ludlow matrix stick. Part of the stick has been recessed to accommodate 1¼ in. matrices. It is easy enough to combine the large figure "3", the period and the numerals "5" and "0," since the offset cut in the stick permits support for the two sizes of matrices by their lugs which rest against the side bars of the stick. Normally, however, there is no support for one lug of the superior "$" mark ⅞ in. matrix at one end when combined with the 1¼ in. figure "3" matrix.



2 *The small block 1 riveted to the thin space 2 supports the ⅞-in. Ludlow matrix when used in combination with 1¼-in. matrices, at the time the slug retreats from the matrix line.*

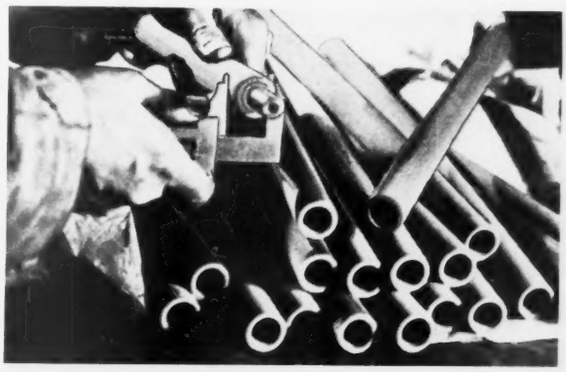
To overcome any tendency of the unsupported matrices pulling from the stick after the cast, Mr. Krueger riveted a small brass supporting block *1* shown in the diagram to a 1¼ in. thin-space matrix 2 of proper size and in position to support the matrix. The block *1* need not be made of the same thickness as the matrix which it supports. In fact, 1/16 in. thickness will be sufficient for the purpose. The block is ⅜ in. high by ¼ in. across.

A clear idea of the function of the thin space supporting block may be had by studying the diagram, in which 2 represents the 1¼-in. thin space to which is fastened the supporting block *1*.

Improved Machinery Pulls Printers Out of Red

Modern press room equipment is essential to business recovery in the printing industry, according to Gordon Montgomery, Jr., sales manager of the Miller Printing Machinery Company. Addressing a sales conference of the company, held at Pittsburgh early in February, Mr. Montgomery said, "There are many cases where printing establishments have installed improved high-speed machinery and pulled themselves out of the red and into the profit zone almost overnight. There are many,

Calipers Prove Booth's Rubber Rolls Are Uniform



By use of your calipers from time to time Booth's Green Keyboard Rolls can be checked for consistent diameter.

Booth's Rubber Rolls give complete satisfaction because they are made with infinite care for a particular duty. They are good for "cold" keyboards because they have as much pure gum as possible and will not bloom because no sulphur can work out of the rubber to foul cam rims. The crepe finish roll insures positive cam response by providing a non-skid tread. They are colored green for your protection.

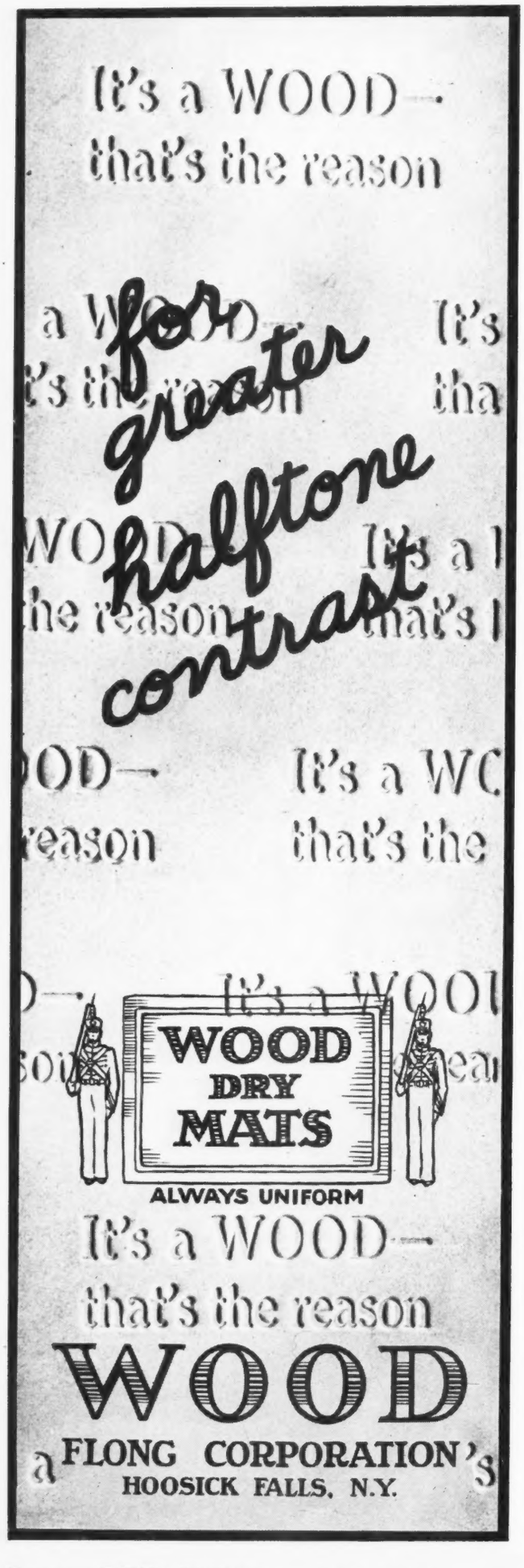
$1.30 per pair; $7.00 per dozen; 55 cents each in lots of 100. Specify crepe or corrugated tread as you prefer.

Booth's Printers' Zink Cut Cement

Booth's Zink Cut Cement supplied in collapsible tubes (no waste—no muss) for use in cementing cuts of any kind to wood or metal base. Price—50 cents per large tube; $5.00 per dozen tubes; $4.00 per dozen tubes in gross lots.

The E. A. Booth Rubber Co.

364 Rockefeller Bldg. Cleveland, Ohio



many more printers who have attempted to meet present-day competition with obsolete equipment and found themselves in the sheriff's hands."

Among the topics discussed at the Miller Sales Convention were: Modern Metals and Their Practical Application, Advanced Printing Press Construction and Operation, U. T. A. Press Room Costs and The Business Outlook for 1936. The program included an inspection of the Miller foundry and factory and a demonstration of all presses manufactured by the company.

New Four-Magazine Intertype

The Intertype Corporation is announcing a new four-magazine machine, referred to as a four-magazine Model C, similar in its general characteristics to a Model C three-magazine Intertype but with one additional magazine. The four magazines on the new machine can be either full length or split. Where split magazines are used, they can be either half-length magazines or the new Intertype three-quarter-length magazines. All four magazines are removed and replaced from the front of the machine, as on the Model H display Intertype, and any magazine can be used in any position. The first machine of this new model was delivered recently, equipped for automatic low-slug quadding and centering, to Poor's Printing Company, Wellesley Hills, Mass., publishers of financial manuals and services.

Improved Method for Printing Cellophane Wrappings

W. S. Alleston, writing for the English magazine *Printing*, states: The development of printing with aniline inks has been stimulated very much in recent years by the increasing demand for wrappings of cellophane, glassine, waxed papers, etc., for foodstuffs, confectionery, linen and a great many other articles which are handled during selling or exposed for sale in the dirty atmosphere of modern cities.

Speeds have been obtained which appear fantastic but I have actually seen cellophane being printed in three colours, bronzed and cross cut into sheets at a very high speed. Here was no question of bad printing or delivery of the sheets; register, etc., was perfect, and the output was maintained steadily. The great feature, of course, was that, by using the quick drying aniline inks, bronzing could follow immediately and the sheets automatically stacked without interleaving.

With aniline inks arises the necessity of printing from rubber stereos. Here again new methods have been devised whereby they can be produced both quickly and cheaply. Stereos from originals such as fine screen half tones, etc., can be made and with the present fine adjustments on the machines can be printed to perfection.

By means of the new methods of matrix-making a great number of stereos can be taken from the one matrix, all of even thickness so that a machine can be set up, with no makeready and running in a very short time.

Many ink manufacturers in this country are putting all their energy into the problem of improving on the advanced continental manufacturers in the production of these aniline colours and as far as I am to judge they are succeeding very well. On the Continent inks are being marketed which are waterproof, grease-proof (non-fading), so that the drawbacks of previous attempts at aniline printing are being quickly overcome.

Foreman

(*Continued from Page 19*)

who insists upon a constant procession into the racks and cases of new material in the shape of rules, leads, slugs, sorts, etc. In some establishments there are strict orders against buying anything without an O.K. from the office, a situation that might occasionally work out disadvantageously. Where it exists it will usually be found that the foreman brought it on himself through inability to control his impulse to be constantly ordering new material.

If the foreman possesses resourcefulness, he can sometimes make improvements without expenditure of cash. One of my friends recently got a new job. He found the type cases fairly well filled, but with type about as bad as possible in design. The owner said there was no money to spend for new faces, so what my friend did was to make a thorough clean-up of the premises, bringing to light a lot of old slugs and cuts, and then he persuaded the owner to let him add to this junk several fonts of type that had not been used for years and probably never would be used again. With the money received from the sale of this old metal he bought enough new type to put a completely changed complexion upon the firm's typography.

For the larger offices there is the non-distribution system, by the adoption of which newly-cast type and other similar metal equipment is always on hand in sufficient quantity. The danger here lies in the tendency to waste strip and border material just because it can be cast so easily. Strict rules and constant supervision should govern the composing room practice.

Foremen should have a knowledge of, and sympathy with, the Standard Cost Finding System. I have known them to be antagonistic to it because of failure to understand its purposes and functions. They believe it adds to expense and they do not accept the figures it presents as to the cost of operation. Compositors also are apt to take the same point of view. They say that time spent in keeping such unnecessary records had better be spent in producing work. There is more, however, to a cost system than a job ticket. The ticket is only a link in the chain. The Standard Cost Finding System has proved its right to existence, and the principle upon which it operates is no longer a subject for argument.

It is a constant help in time of trouble, particularly if the trouble takes the form of a call to the carpet from the front office. A properly kept cost system leaves nothing to the imagination. It gives the facts. The foreman with a 9-H sheet (the summary sheet) in his hand can answer any question about the operation of his department that may be asked, and if he has profited by the information it furnishes him, he can defend himself when called to account by his superior officer.

A foreman is a man who has stepped out of the ranks into the first position of command. There are other positions ahead and he will succeed to them just to the degree in which he fits himself for them. That means self-improvement. The opportunity for advancement is almost sure to come and he is a wise man who makes certain that he will be ready when the summons comes. There has been created for our industry an infinite and complete variety of supplemental education. In the larger cities classes of instruction of various kinds are conducted, and where they are not available books should be obtained and studied. A foreman cannot know too much about the allied arts, such as bookbinding, engraving, electrotyping, paper making, etc. He can perform his own tasks better if he knows something about them.

Ask Any Salesman

what he hears about Vulcan Press Blankets in the plants he visits

Newspaper equipment salesmen are often well informed about new developments in various lines. Many of them have done good work for us in spreading the news that Vulcan Cylinder Packings save money and promote better presswork. Also that Vulcan Blankets are ready to run when you get them—no pounding down or other "breaking-in" necessary—and that they are free from excessive stretch and therefore butt up together perfectly.

Write for particulars about Vulcan Felt and Non-Felt Blankets, E. D. Blankets, Draw Sheets, Underpackings, and Inking Rollers (Rubber and Synthetic). Also, for the Stereotyping Department, Buckle-Proof Molding Blankets, Cork Molding Blankets, and Creeper Sheets.

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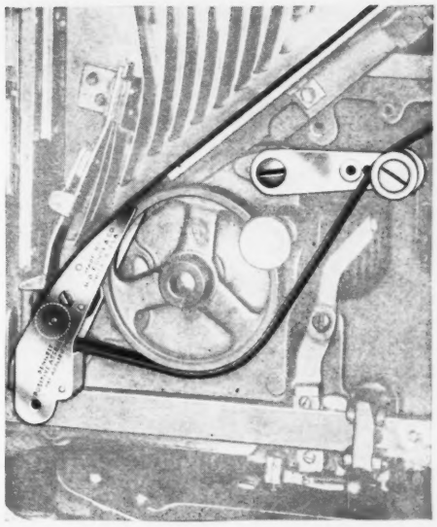
FIRST AVENUE AND FIFTY-EIGHTH STREET, BROOKLYN, N. Y.
Pacific Coast: Ralph Leber Co., Inc., 426 Polson Building, Seattle, Wash.

The Sennett Positive Assembler



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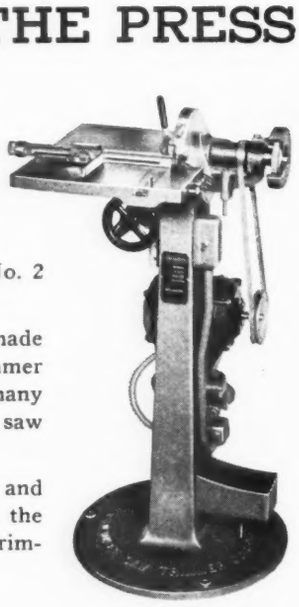

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Pacific Coast Representative: Ralph Leber Co., Inc.,
426 Polson Bldg., Seattle, Washington.

Vibration

(Continued from Page 22)

To some extent, this did overcome the trouble; but new difficulties arose in such instances because the legs of the machine did not always rest squarely on a joist or stringer. The result was that the machine usually worked itself into a weak spot on one or more of the legs and one side of the machine sank out of level, causing increased distributor stops.

Experiments with various types of "seat" or base have resulted in this finding: Improved results are secured

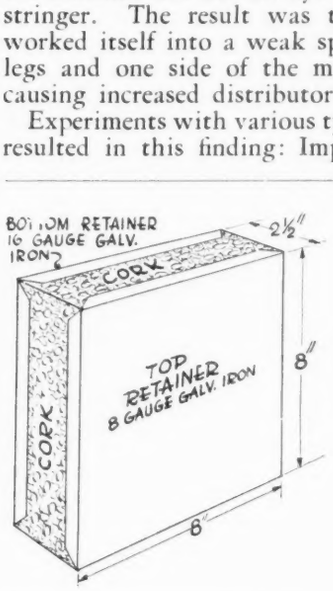


Fig. 3.—The artist has drawn this cork block edgewise, otherwise it illustrates construction of the blocks as used in the plant of the New Orleans Times-Picayune *composing room to eliminate vibration caused by operation of the composing machines.*

where the machine legs rest on an independent base entirely apart from the general floor, be it of concrete, wood or other material.

Messrs. George Downes and Fred K. Forstall, of the New Orleans *Times-Picayune*, have evolved a practical method of mounting line-composing machines—one that after months of use has obviated all vibration and which affords smooth, easy operation of the machine. In this case, a wooden floor is laid over concrete. The plan for vibration elimination now in successful use was developed after tests were made as to its practicability.

Slabs of compressed cork 2½-in. thick were secured. These were sawed down to blocks, each of which is 8 in. square. A pan made of 16-gauge galvanized iron,

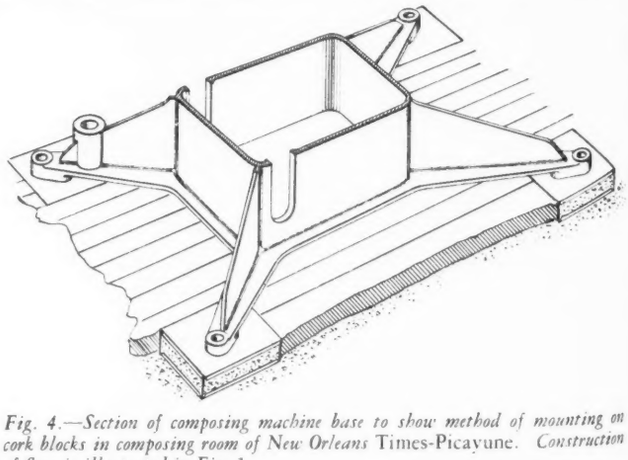


Fig. 4.—Section of composing machine base to show method of mounting on cork blocks in composing room of New Orleans Times-Picayune. *Construction of floor is illustrated in Fig. 1.*

was shaped to fit the bottom of this block, large enough in area so the sides could be bent upright to form a pan, into which the cork block is laid. The sides of each pan were bent in slightly to "hug" the sides of the cork. A like pan was fashioned and shaped for the top, but 8-gauge iron was used (twice as heavy as the bottom material) since the lighter material on top would crush

in from the weight of the machine. These cork blocks, one for each leg of the machine and each encased in galvanized pans or retainers, are laid directly on the concrete with the flooring finished about them. In other words, the same as if a hole is cut in the wood floor the size of the cork block, which is set into the hole directly on the concrete, thus having no connection with the floor itself.

The cork base will have the effect of stopping all vibration, and once the machine is set level on these blocks, it will remain level. There is no permanent compression of the cork which absorbs all vibratory movements of the machine. The machine runs smoothly on such a footing and distributor stops are minimized. Of greater moment, however, is the fact that wear of vital machine parts is measurably reduced, and the general clatter, so apparent in a large battery of machines, is quieted perceptibly.

To Miter Against the Right-hand Jogger

MANY saw-trimmer gauges of early manufacture were equipped with but one micrometer head. This micrometer was primarily designed as an aid to the measurement of work which was to be sawed at right angles. At a later date, another micrometer head, to be used in conjunction with the first, was added to the original equipment. The new head enabled the operator to determine with precision the number of points forward work intended for mitering must be moved.

But, a number of the one-gauge saws are outstanding, and some of the earlier gauges have been replaced with one of more recent manufacture and of more substantial construction, but one that is yet lacking in the mitering-gauge feature.

Compositors called upon to miter work with saw-trimmers thus equipped will find the following information valuable.

Mitering Against the Jogger

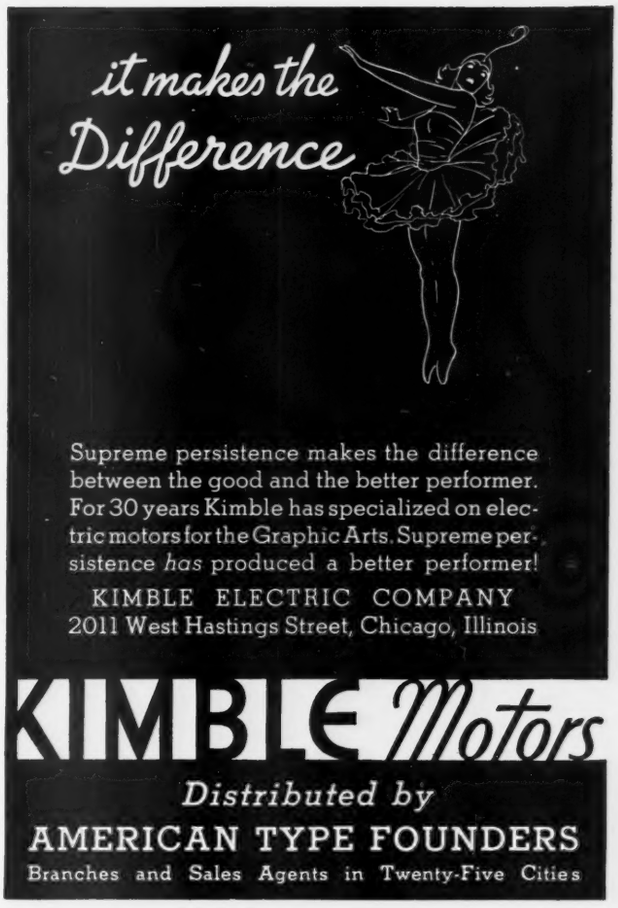
To miter against the jogger, proceed as follows:

1. Saw slugs or borders in the regular way to the length desired.
2. Having performed the foregoing operation, move the slugs forward 4¼ points (if the slugs are 6-point slugs). Use the micrometer gauge to determine this distance.
3. Set the slug jogger against the right-hand end of the slugs and tighten the set screw that holds the jogger in place.
4. Swing the work from its right-angle position with relation to the saw blade to one of 45 deg. when mitering a box or rectangle.
5. Move the slugs up to the jogger and lock the work in place with the work-holding vise. Take the precaution to ascertain that each slug rests against the jogger.
6. Saw in the regular way.
7. To miter the remaining end, turn the slugs face down and repeat Operations 5 and 6.

When mitering 12-point slugs, the work must be moved up 8½ points. To determine the number of points to move slugs of other widths, multiply the width of the slug in points by 0.707.

Example: 12 points x 0.707 equals 8.48 or 8½ points
10 points x 0.707 equals 7.07 or 7 points
6 points x 0.707 equals 4.24 or 4¼ points

Borders may be mitered by this method in quantities as large as the work-holding vise will hold. A thin bristol board placed under the end of the slugs nearest the saw will assist in the process of undercutting the foot and thereby permit a better lock-up at the top or face.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• Technical Literature

Readers of *Printing* EQUIPMENT *Engineer* who are interested, may secure any of the Books, Catalogs or Bulletins listed below by checking the literature desired in the square opposite the title. Mark carefully only that literature which you wish to receive. Fill out the coupon and send it to us. The literature will be forwarded gratis except where noted.

☐ *Hamilton-ATF Catalog of Composing Room Equipment*—Practically every piece of equipment has been re-designed to meet the changed conditions in the composing room of the commercial printing plant. These changes are explained and illustrated.

☐ *Electric and Gas Heaters, Static Eliminator and Neutralizer*—For application to Miehle Vertical and Kelly presses. Four-page illustrated folder.

☐ *Ti-Pi Rubber Printing Plates*—Folder describes engraved rubber printing plates together with production methods.

☐ *Monotype-Huebner Photo-Imposing System*—Eight-page folder describes for printers who are not familiar with the operation of Photo-mechanical Equipment in terms which printers are more apt to understand.

☐ *It Pays To Be "Base" Minded*—Illustrated folder describing features and advantages of plate mounting base.

☐ *Illustrated Circular, No. 317*—Devoted exclusively to factory and warehouse Floor and Lift Trucks equipped with noiseless, easy rolling, rubber-tired wheels, has just been issued by Lewis-Shepard Company.

☐ *Ludlow Karnak Obelisk*—Folder printed in color shows intended uses for type face together with graduated showing of sizes.

☐ *The Story of Deepdene*—Elegant brochure set on the Monotype in type face designed by Frederic W. Goudy. Story and brochure by Frank M. Sherman. Layout and typography of specimen pages by Edward W. Scheer.

☐ "*The Case of Alemite vs. Friction*"—New 32-page catalog of equipment produced by Alemite for industrial lubrication. Contains information and prices of equipment in all the Alemite systems—new powerguns, hand guns, fittings, automatic oil and grease cups, centralized lubrication equipment, pressure-proof hose, etc., and necessary accessories. Fully illustrated with diagrams, photographs and drawings, Maintenance men will want this catalog at hand for ready reference.

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□*Linotype Achievements*—As one of the preliminary items in the observance of its fiftieth anniversary, the Mergenthaler Linotype Company has issued an attractive illustrated booklet entitled "Milestones of Linotype Achievement." The booklet points out with approximately fifty graphic illustrations, the development of the Linotype from its preliminary stages to the various models of today, with the dates when the many improvements were introduced. Copies of the booklet may be had for the asking from any Mergenthaler agency, or through *Printing* EQUIPMENT *Engineer*.

□*Folder*—Shows settings of Centaur type and its accompanying italic, the Arrighi of Frederic Warde, together with one-line specimens ranging from 10 pt. up to and including the 36 pt. sizes.

□*Saw-Trimmer Bulletin*—Illustrates and describes features of new model saw for composing room work.

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New and rebuilt equipment for Offset, Photo-Engraving, Electrotyping, and Stereotyping.

Color Match Box

(Continued from Page 20)

A tube of binder is included for use in bodying-up an ink which is too soft, or to add tack.

Selection of Color Combinations

The chart has been laid out so that any color from No. 1 to No. 3, inclusive, can be used with any color from No. 4 to No. 6, inclusive, to produce a contrasting color combination.

Analogous color harmonies may be produced by using together any two or three colors appearing in juxta-

Fig. 3.—The Ipi Color Matching Chart showing 90 colors and 6 gray tints. Directions are printed in large type upon the chart itself. In this manner, the instructions remain attached to the working units.

position to each other; *i.e.*, from No. 1 to No. 3, or from No. 7 to No. 9, and so on.

Ninety colors and six gray tints are shown—a nucleus that will provide a great number of color combinations.

The Standard Letterpress Kit

The standard letterpress kit contains the following inks and compounds, made to be used just as they come from the tubes:

TABLE I

One Tube Each	*DESCRIPTION*	*Lbs. per Tube*
A—Red	A semi-transparent blue-shade Red built from a Process Red base	1.20
B—Red	A semi-transparent yellow-shade Red	1.10
C—Persian Orange	A transparent Persian Orange	1.08
D—Yellow	An opaque Lemon Yellow	1.85
E—Blue	A semi-transparent Milori Blue	1.15
F—Purple	A semi-transparent Reflex Purple	1.12
G—White	An opaque Cover and Mixing White	1.50
H—Black	An all-round Halftone and Job Black	1.04
Reducer		
Binder		
Dryer		

Each tube is marked with a large, bold letter: A, B, C, etc., so as to make identification easy.

Five Million in Two Days

The United States Government Printing Office, under the management of Public Printer A. E. Giegengack, set the type, made the plates, and printed and delivered in less than 48 hours five million application forms for the payment of Adjusted Service Certificates to veterans of the World War.

Later, two additional orders of one million copies each were printed and delivered overnight in each instance, after the initial printing order of five million was delivered.

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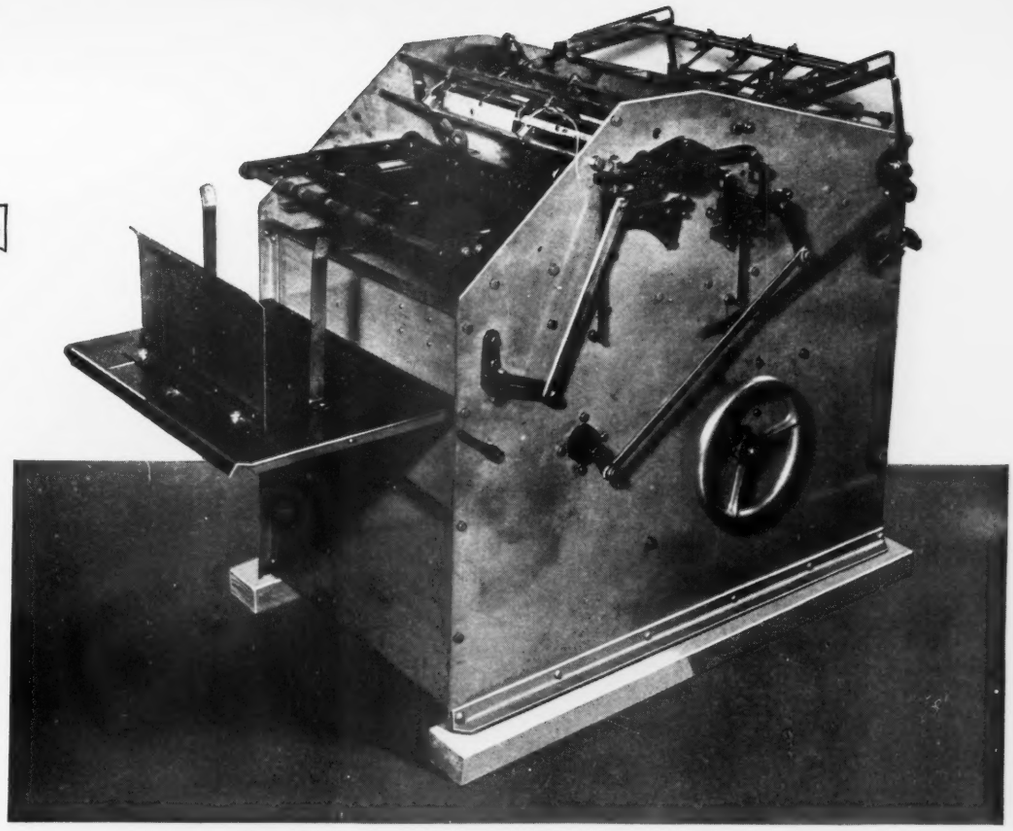
Tapered Roller
TIMKEN BEARING
EQUIPPED



Tufford Automatic Press manufactured by The Kienzle & Merrick Mfg. Co., Minneapolis. Equipped with Timken Bearings on the cylinder bed, crank shaft and countershaft.

FOR FASTER AND BETTER PRINTING AT LOWER COST . . .

Timken Bearings have brought new conceptions of speed, accuracy and economy to modern printing presses of all types —both letterpress and offset.

Relieved from the drag of friction and protected against radial and thrust loads, cylinders revolve with greater freedom. There is no lateral movement to cause slurring. Wear ceases to be a problem of maintenance.

Timken accuracy in printing equipment is comparable with the precision of Timken-equipped machine tools where tolerances as close as one ten-thousandth of an inch are frequently specified. You need this precision in your presses. It will pay you to get it.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN TAPERED ROLLER BEARINGS

STEP UP YOUR PROFITS

with Low-Slug Quadding

THE SAVINGS effected by Intertype Automatic Quadding and Centering are definite, direct, measurable savings of time and money. This one Intertype feature steps up production from 10 to 50 per cent. On some kinds of work, even more. ¶ Now this Intertype profit-earner is still further improved by LOW-SLUG QUADDING, which introduces still more profitable reasons for owning Intertypes. Note in the above pictures a few of the newest advantages of the Intertype as embodied in Low-Slug Quadding. No more smudging of printed sheets by the ends of quadded slugs! No more cutting, routing, sawing or chiseling of slugs to prevent such smudging! Mounting cuts directly on slugs! Automatic Justified Indentions . . . all these and other new Intertype features invite special investigation. Not to mention finger-flip changes from one type to another, mixed composition at straight-matter speed, and new methods of setting display including the Intertype One-Machine All-Slug System, up to full-width 60-point caps. ¶ *Why not meet 1936 competition with 1936 equipment?*

•INTERTYPE•

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